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L.M. Clinch.

The British Society for the Study of Orthodontics

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Presented to the Society by Dr. L.M. Clinch, this volume was originallly issued to Dr. G. Northcroft.

TRANSACTIONS

OF THE

BRITISH SOCIETY FOR THE STUDY OF ORTHODONTICS.

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ORDINARY MEETING.

An ordinary meeting of the British Society for the Study of Orthodontics was held at the rooms of the Medical Society, 11, Chandos Street, on January 12th, the President, Dr. Sim Wallace, in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. S. A. Knaggs, L.D.S.Eng., was ballotted for, and duly elected.

The President announced that the ballot for Councillors resulted in the election of Messrs. H. Baldwin, E. R. Tebbitt, and C. Schelling.

Mr. Northcroft brought before the members two articles which he thought were an improvement on what they were now using. The first was a bottle for cement liquid, which not only kept the fluid from crystallising, but with the aid of a pipette kept the fingers clean when conveying it to the slab. He had used these bottles for some time, and had found them exceedingly useful. He had some trouble in getting the bottles made, but eventually Messrs. Ash took the matter up, and supplies can now be obtained from them.

The second article was a box for storing models. This had also been used for some time with good results. He considered this arrangement far better than keeping models loose in a cabinet, exposed to dust, &c., and on the suggestion of Mr. Badcock he had these boxes constructed. Each box was made to hold five pairs of models, packed back to back, with just a slip of cardboard between each pair to prevent injury. They could be had from F. G. Kettle, 9, New Oxford Street, and the price was 2s. 6d. per dozen.

The President, on examining these articles, said he wished he had used something of the kind as they were simple and cleanly things. Most of his old models he had thrown away because they had got dirty.

Mr. Hedley Visick said he had used a bottle similar to that suggested by Mr. Northcroft for some time, and he found it exceedingly useful, not only to keep the fingers clean but the liquid too. He also suggested that if the top was not properly ground in, a

little vaseline would keep it airtight without interfering with the contents.

Mr. Spiller suggested that in the mixing of cements, members would find they did not set so quickly in hot weather if they were mixed on an ordinary 8oz. medicine bottle which had been previously filled with cold water.

Dr. Sim Wallace then gave his Presidential Address on

SPECIALISM IN RELATION TO THE STUDY OF ORTHODONTICS.

The last thing in the world I am adapted for is that of being president of a learned society. But you have elected me. I have accepted the office because I coveted the honour, and although anxious to fulfil the duties of the post with satisfaction, yet if ever president seriously implored the indulgence of members he does so now.

On these occasions it is customary to give an address, though this year it is hardly necessary, for our society has been so successfully launched and the outlook so favourable, that nothing more seems necessary than to let it continue its successful progress. Already we can look back through our Transactions and find something fresh and inspiring. New ideas which have illuminated facts previously known, and new presentations of facts which have thrown light on both old and new ideas. So, too, we can see how completely unfounded were the fears of some of us that occlusion and regulating appliances might overshadow the scientific basis of the study of orthodontics. In fact, I believe the enthusiasm of our members, the guidance of our past presidents, and the careful work of the more permanent officers of our society have wafted us forward in the path of progress further than we are really aware.

No new society is ever formed without opposition, nor would it be well otherwise. That there was opposition to the formation of this society is, of course, common knowledge, but we appreciated what value there was in the adverse criticism and have so framed the constitution of this society that the dangers which were predicted may most surely be avoided. It is my intention to-night to refer to one of the dangers which it was supposed might result from the formation of our society, not because it is a danger really, but because perhaps it is interesting. Still if indeed any danger does lurk somewhere or another, a little analysis may reveal it. It was said that in founding this society we were splitting up the dental profession into too small sections. It was contended that dentistry was really a branch of medicine and that already it was sufficiently highly specialised. That, indeed, we were only going to increase the curse of specialism. We all know that specialisation has certain disadvantages in practice. It tends to confine the attention of those who are more or less fully engaged in it to a narrow rut, distorting the sense of proportion and limiting the large and liberal outlook, which should be characteristic of a learned profession. But this society is not meant in the slightest way to bring specialists in orthodontics into existence. Nothing in our rules gives any indication of such an idea, and none of our members practice orthodontics exclusively.

The founders of our society felt that there was a great amount of ignorance on the subject even among the most erudite, and they felt that a society for the study of orthodontics would be a blessing not only to its members in their daily practice, but also to the dental profession in general, and to their patients in particular. It is perfectly true that the practice of a small or special branch of any profession may not tend to breadth of outlook, although it may tend to special dexterity in the good or bad methods with which the operator may have become acquainted, but again I say it must be remembered that this society is not a society for the practice or even for the teaching of orthodontics, but for its *study*, which is a totally different thing. Now let us see whether the study of this special branch of medicine or dentistry tends to give rise to the dangers which lurk in specialism. There are several ways in which we can advance in the study of orthodontics or for that matter in any special branch of learning which is as it were in its infancy. To begin with, of course anyone commencing the study may benefit largely by simply bringing himself up to date by reading the literature on the subject. Well, a society such as this is both a constant stimulus and guide to such an one. The library is at his command, while the demonstrations and clinical evenings present him with valuable and practical material for study. Should this be all that he wants, good and well, he can have it and no one will say that he is not the better for it. The pity would only be if he could not get equal opportunity for continuing the study of the various other branches of his profession. But it is not in this way that I would specially commend the study of orthodontics. We want to go much farther than this. We require research and investigation in the study of orthodontics, and this demands from our members a breadth and depth of learning over and above the technical study of orthodontics which few outsiders seem to appreciate. There is indeed a great deal of misconception as to what is necessary for the study of any particular branch of knowledge which has not already been methodised and reduced to its principles. There seem to me to be certain essentials for this. One is a good general education, *i.e.*, a fund of knowledge of the more diverse kinds which can perhaps be most readily obtained by studying the principles of science in general. This is of the utmost use in any attempt to find and elucidate new truths for when where truth lies is unknown, it is generally necessary to make countless hypotheses before one which is more or less accurate is likely to be discovered and a full general knowledge is the most excellent sledge-hammer for crushing erroneous hypotheses which has as yet been invented. It may be truly said that every man who has contributed any important truth to the sum of human knowledge has excelled not only in making explanations, but has also revelled in the use of some sledge hammer for the extermination of erroneous ones. The Greeks of old are hardly recognised to have had scientists among them, but they had men accustomed to reflect, compare, analyse, and synthetise; in fact, they had philosophers, and even without much scientific accumulation of facts advanced knowledge to an extent which is amazing when we con-

sider the lack of facilities for research and teaching and the trifling numbers of men forming the whole community. I am not trying to belittle the scientist ; we have urgent need of him in the study of orthodontics. I want rather to indicate that we require several different types of intellect in a society such as this. Each type may be excellent in itself, but how much more useful is each when associated with the other. It may be well that the two different types referred to can hardly be united in one individual, for it is said that "the observation of minutiæ, attendance upon the co-ordination of detail perverts the mind from a synthetic habit of thought," yet be this as it may only benefit can arise from the two types conferring with each other. We require then in our society those with the philosophic mind who like a Spencer may co-ordinate our knowledge and set others working on new and fruitful paths of speculation and research. It is not always necessary either to investigate detail. Those well endowed can often call upon their wealth of knowledge, and show how a new hypothesis fits in with previously ascertained facts and principles or they can devise some simple yet crucial experiment such as that devised by Humphreys in regard to the growth of the jaws, or they may bring forward some telling case, which alone may practically prove or destroy a hypothesis without the tedious accumulation of details.

We need also the true scientist ; the man who is able to appreciate the philosophical hypothesis, which will lead to positive and fruitful results, but who is not satisfied with this until he has carefully collected the evidence which is required to make the hypothesis an indubitable truth. Lastly our society must even welcome the modern or pseudo-scientist. By the pseudo-scientist I mean the scientist of the Baconian School, *i.e.*, such investigator as may be constantly engaged in experimental enquiry, who compiles numberless notebookfuls of scientific facts and endless tables of numerical results, but who can never by such work alone rise to new and great discoveries.* But if those investigators whose notions of scientific method are a kind of scientific book-keeping and whose facts are indiscriminately gathered from every source are unable to emerge with a balance of truth of much value to us, they may at least reasonably expect to be elected Fellows of the Royal Society. Still notebookfuls of scientific facts have some use for those who follow with the power of statistical analysis, and are therefore not altogether useless. Nevertheless it should be remembered that it is difficult to imagine a less likely way of arriving at important truths. The greater the array of facts, the less is the probability that they will by any routine system of classification disclose the laws of nature they embody. It is before the glance of the philosophic mind that facts must display their meaning and fall into logical order. I quote this from Jevons' *Principles of Science* because some of our younger members are apt to be discouraged by the common belief that their views cannot be of great value unless accompanied by a wearisome array of facts and measurements. We are indeed particularly anxious to have the views of the younger

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*Jevons' *Principles of Science*, p. 571

members, because the most brilliant ideas almost always originate in relatively young brains, and besides, the future of our society depends upon them.

In a society such as this we require something more. We require enthusiasm in our study. Our members are mostly young and enthusiastic. We are not wedded to any stereotyped school of thought, and are therefore sensitive to impression by exceptional phenomena. Our imaginations are young and active, and so " are able to bring before the mind multitudes of relations to show how the unexplained facts may possibly stand with regard to each other or to more common facts."

With the concourse of enthusiasm and such excellent types of intellect as this society must inevitably attract and beget, need we fear that our study will give rise to narrowness when we are necessarily surrounded by forces which must tend to discipline to elevate and to enrich the mind.

Then, again, what does the study involve ? It is not a microscopic science, such as might distort our sense of proportion. It is by no means isolated in its relations. Anatomy, comparative and human, embryology and development, physiology and pathology, mechanics and physics are all necessary parts of our study. But this is not all ; we have to go outside the realm of science altogether. We must study art, art in its highest and most fascinating forms, for without a keen appreciation of the lines of facial beauty, our study would lose the greater part of its interest and charm.

There are two or three other considerations to which I should like to draw attention. One is with regard to the harmonising of our words with those in correlated sciences. It is imperatively necessary in the study of any science to use language correctly and to have the meanings of words clearly defined. Orthodontics has been practised empirically by many who were little more than mere mechanics. Words have been introduced by them which do little credit to their general education. Anthropologists and anatomists who read our literature are often puzzled, if not shocked by the words which are used. This must not be allowed to continue, for the abuse of English is, of course, quite intolerable in a learned society. At our last general meeting we indicated our determination to use correct words when we unanimously approved of the word " orthodontics," instead of " orthodontia." How that came about is fresh in our memories. I would suggest another change. You will remember that our immediate past president drew attention to the undesirable nature of the words " mesial " and " distal " occlusion, and I believe, after careful consideration and consultation with high linguistic authorities, he suggested the more appropriate words pre-normal and post-normal occlusion. I think it would be well and fitting to commemorate his memorable term of office by adopting the words which he has suggested. We want the British Society for the Study of Orthodontics to be honoured for its work throughout the whole world, not only by dentists, but by anthropologists and others, who it is hoped may read and value the work which is being done by our members. I have not referred to the mechanical ingenuity among other things, which

has been displayed by some of our members in their invention of new appliances, though they may help us considerably in our daily practice, but I should like to refer to a contrivance which has been brought to great perfection by Mr. Northcroft. I refer to his prosopometer. It seems to me to be an instrument which will create almost a new branch in orthodontics, namely, the measurement and corelation of the sizes of the jaws and the dental arches. The total lack of knowledge on this subject was brought home to the members of the committee which was appointed to determine the phenomena associated with post-normal occlusion, and one of the members of that committee brought forward an instrument of the kind in a rudimentary form. I would commend its use to you, and trust that with a little collaboration the scientific work of our society may thus be enhanced.

In conclusion, I should like to refer to something of special interest to myself. As some of you may know, I am an idealist, not only in the more correct acceptation of the word, but perhaps unfortunately, also in the everyday dreamy acceptation of the term. On that account I feel constrained to hope that our society will not forget an ideal, namely, the prevention of the irregularities of the teeth. We are anxiously looking forward to hearing this evening a paper by Mr. Rowlett, touching upon this subject, and I feel certain that our society is sure to devote a reasonable amount of attention to this branch of our study, for it is a society of professional men and not of tradesmen, and it has, I believe, already shown its appreciation of the importance of the subject of the prevention of irregularities by electing one president, who has no claim to distinction in the art of orthodontics, but who can only be known as one who dreams of the day when children may be *permitted* to live under environmental conditions, which will not only prevent the irregularities of the teeth, but will also prevent the ill-health and its results which are so painfully depicted on the faces of four-fifths of the children of the present day. It is surely not too much to hope that the irregularities of the teeth may some day be as rare among the civilised as they are among savages, and I am sure it is the wish of all of us that this most desirable result will have been brought about largely by the efforts of the members of the British Society for the Study of Orthodontics.

Mr. Northcroft proposed a very hearty vote of thanks on behalf of the Society for Dr. Sim Wallace's inaugural address. He reminded the President of his congratulations in December, and also added that everyone was looking forward to Dr. Sim Wallace's presidency with very great pleasure. There was, however, he thought, a little error in the address with regard to the originator of the "prosopometer." He wished to disclaim all credit in this connection. He added an additional measurement to it, but that was really a very small thing. The invention was the President's own, and shown to the Society early in 1909.

Mr. Rushton asked to be allowed to second Mr. Northcroft's motion. Mr. Northcroft had remarked that the Society should study the question of nomenclature in respect to orthodontics, and the President also dropped a similar hint. He thought it was a subject which might well engage their attention.

THE PRESIDENT, in replying, said that the question was still only in the suggestion stage, but would be brought up at a meeting shortly.

MR. ROWLETT then read his paper on

THE INTERDEPENDENCE OF PROPHYLAXIS AND ORTHODONTICS.

AFTER I had accepted your Secretary's invitation to read a paper before you, I became deeply impressed by my unworthiness of the honour accorded to me and my incapacity to merit it ; my unworthiness I might conceal my incapacity I felt I could not hide ; and so I ask you to judge leniently of this, my effort, and by instructive criticism to help me on to better things. To-night I have an especial claim to your generosity, since I follow one who is so eloquent and practised in his addresses to learned societies.

When I became a Member of the British Society for the Study of Orthodontics, I bought and read ponderous volumes upon the subject, I became fired with enthusiasm and laid in a large stock of expensive appliances, many of which remain unused on my shelves to this day, I undertook in my zeal various complicated cases of malocclusion, and found out how easy it was to move teeth, some times not in exactly the direction required, and how difficult it was to retain them in position when moved.

I disregarded the warnings of experienced orthodontists as to the difficulty of combining the practice of orthodontics with general practice, wasted much valuable time, and had many failures, and some few gratifying successes. Then it was I realised that the treatment of serious and advanced cases of malocclusion for the most part was not possible for the general practitioner. What then, I asked myself, was his position in regard to these cases ? What was his duty to his patients and to his profession ? Was he merely to sort out such cases, and send them to a specialist or was he to leave them to Nature as his predecessors had done before him ? I felt that in some way it was his duty to take steps to prevent these deformities arising, by his knowledge and his skill to stop the very beginnings of evil. But how ?

My earnest desire to find an answer to this question, and the fact that I am echoing the cry of all earnest practitioners through the country must be my excuse for appearing before you this evening, and my apology for the fact that my paper contains little original thought, but merely the ideas of better men than myself, who have expressed themselves more fully and more ably elsewhere. In particular I would make mention of our President, Dr. Sim Wallace, whose writings have been my chief source of inspiration, and whose theories I fear I may have somewhat mutilated in my clumsy translation, and also of Dr. Harry Campbell upon whose paper, entitled " Observations on Mastication," and which appeared in the *Lancet* in July, 1903, I have drawn considerably in my remarks upon Nasal Obstructions.

Every branch of the science and art of dentistry is to some extent dependant upon every other branch, and without mutual aid no branch can in the fullest manner discharge its particular function. Between dental prophylaxis and orthodontics there is a

bond of peculiar intimacy, and it is to that interdependence I wish to draw your attention to-night. My position among you is that of a general practitioner among specialists, and it is for that reason I have chosen a subject which I feel is the overlap of the scene of our activities.

Livy tells us that whenever Cato the Elder addressed the Senate, in his later years, he finished his speech no matter what the subject might be, with the words, *Delenda est Carthago*. This, then, might be called his motto or device. In the same way our motto as general practitioners should be *Delenda est Caries*, and as orthodontists *Delenda est Deformitas*. When I say that these are mottoes I mean that they are touchstones or tests by which the carat or purity of all dental practice may be tried, and in proportion as they respond to such a test so is the measure of their utility to be assigned. The ideals of the dental practitioner with regard to a patient who presents himself or herself for treatment may generally be considered as four in number. 1. To ensure the patient comfort. 2. To obtain efficient powers of mastication. 3. To prevent recurrence of the disease. 4. To obtain an æsthetic appearance. In other words to gain and to preserve for the patient those advantages which are ensured by Nature to the possessor of a perfect set of teeth.

Now it is obvious that the most rational way to attain to these ideals is to study the development of the jaw and teeth in the natural state, and by intelligent anticipation to strive to ward off those diseases and deformities which have become so severe a menace to all civilised communities.

And this production of a perfect set of teeth is the goal to which prophylaxis, with the aid of orthodontics is ever striving to attain.

In the endeavour to prevent the appearance of caries the first point to determine is the causes of the disease, and the chief cause of caries is the accumulation of food around the teeth after meals. This much will be admitted by all I think, and is impressed upon us every day in our own work. Inflammation of the gums I shall mention later. Now the student of prophylaxis in his endeavours to maintain the healthy condition of the oral cavity approaches his work from two points, always keeping in mind the cause of decay, *i.e.*, the accumulation of food stuffs around the teeth.

First he treats the teeth themselves, and by most carefully removing all deposits, by polishing, if necessary, all surfaces, by accurate restoration, and by maintaining the gum in the interproximal space healthy and of natural contour, he endeavours to make the surfaces of the teeth themselves as little retentive as possible of foodstuffs, and also by instructing his patients in the judicious use of the toothbrush, floss silk, of massage of the gums, and even in some cases home atomiser, he guards agianst the recurrence of the conditions he has just treated.

Secondly, he passes under consideration the foods themselves, which have in the past accumulated around the teeth aftermeals, and by their fermentation and office as culture media have caused the unsatisfactory conditions.

These also, I venture to think, are his especial province, and by

some of our most thoughtful observers are considered of the most fundamental inportance. Such foods are advised as necessitate that thorough mastication for which the dentition evolved by Nature for man is especially fitted ; and such a diet, moreover, as by its fibrous elements leave the teeth at the end of a meal free from dangerous debris. The thorough mastication necessitated by this diet at the same time promotes the vigorous circulation in the alveolus and gums which is so useful to maintain their tone and to ward away pyorrhœa. At the very outset of this prophylactic work the practitioner finds himself confronted by the fact that his best efforts are continually frustrated by irregularities of the teeth, and that indeed success can only be attained in those cases in which perfect occlusion is present, whether it be the result of Nature or the Orthodontist.

Curiously enough, caries is sometimes absent in just those crowded teeth where one would most expect to find it, but a most troublesome and chronic form of pyorrhœa is very frequently present in its stead. This condition presents extraordinary difficulties in the matter of instrumentation, and sometimes when there is no opposing tooth, seems almost incurable. The incisors in cases of Class II. are a frequent example of this in middle age, and the lengthening of the lower incisors by impinging upon the mucous membrane of the palate immediately behind the necks of the upper incisors aggravates the disease.

Two cases in my practice occurred quite recently illustrating the presence of troublesome pyorrhœa in cases of malocclusion. Both patients were men of about 30 years of age, whose family history was good, and who had always led healthy and quiet lives with a good deal of active outdoor exercise. One case had received regular treatment for several years. On testing the amount of masticating surface I found that although only the second left upper bicuspid and the first lower molar on each side was missing. The only occlusion he obtained was half a molar tooth, and the points of the buccal cusps of the bicuspids on each side. The pyorrhœa here is of a most obstinate type, and there is very great sensitiveness at the necks of all the teeth.

A very serious condition has been diagnosed in the duodenum ; he has been forced to a large extent abandon business, and to live permanently in the South of England. His mouth is one mass of fillings and fresh decay is continually appearing. He tells me he cleans his teeth after every meal, and for some time adopted the system of dietary advocated by Mr. Horace Fletcher. This is a state of affairs in which the help of the orthodontist could have remedied matters, and in which without his help other remedies have failed.

My other patient was a man in Government employ who fears dismissal owing to a chronic gastritis which unfits him for work.

In his case caries was not very marked, and the pyorrhœa was of a different type ; he also had not received so much treatment, but the amount of masticating surface was, if anything, less, although he had at least seven pairs of teeth in the molar and bicuspid region which would normally have antagonised.

In these cases, of course, the advice to use the teeth thoroughly and to grind the food is simply absurd, and it shows very strongly how little notice is taken of the manner in which teeth occlude by members of our own profession, and even by some eminent physicians.

Personally, I must admit that it is only recently I have become fully alive to the importance of estimating the area of masticating power, and this I largely ascribe to the dangerous system which obtained when I was a student of merely extracting unsaveable teeth, filling the other carious ones, and then after what was often a very hasty scaling, dismissing the patient with a most imperfect and inefficient mastica,tory apparatus. No doubt to-day this state of things is alteredi and the presence of an orthodontist upon the staff of dental hosptals and the growing recognition on the importance of the study of orthodontics will result in the insistence of the fact that not only must the health of the teeth be studied, but that their position in relation to each other, so that efficient masticating is possible.

Dr. Angle, in the preface to the seventh edition of his "Malocclusion of the Teeth," says :

"We have learned that at best our efforts are to assist Nature, and that if we correctly interpret her wishes and intelligently assist her, she will complete the growth and development of the tissues normally in accordance with the type of the individual."

Now we know that given a free hand and a patient amenable and obedient to instruction it is possible for the skilful orthodontist with the resources at his command to-day to move teeth from what may appear almost hopeless irregularity to what I may term regular occlusion, and also by suitable appliances and judicious massage to stimulate such growth of the surrounding tissues as will retain them in that position, that is supposing no bad habits such as mouth-breathing, lip sucking or the like remain. And we know, some by bitter experience, that unless these appliances are most carefully and accurately adapted, and the principles of prophylaxis are most carefully carried out both by patient and operator, caries will supervene, and the first law of medicine, namely—to leave our patient in no worse state than we found him—will have been violated.

It might be expected that parents or guardians of children would ask the very natural question as to what steps they should take to avoid malocclusion or caries. It is, however, a significant fact that in a very large number of cases no such question arises at all, the condition is looked upon apparently as thunderstorms or as the plague in the Middle Ages, a visitation of God. If the question is asked, the explanation that teeth are bad nowadays, or that the child has inherited a small jaw from one parent and large teeth from the other is deemed quite satisfactory. This is of daily occurrence in hundreds of practices throughout the country, and it is our desire and ability to answer this question which determines whether we are to be considered as members of a scientific profession or not.

Let us consider what are the causes given as promoting malocclusion, and consider them in relation to the means used by the

student of prophylaxis, and we shall see the close manner in which they are related, and that he who is practising oral prophylactics is at the same time a prophylactic orthodontist.

Under the heading "Aetiology of Malocclusion," Dr. Angle gives the following :—

Premature loss of deciduous teeth.
Loss of permanent teeth.
Imperfect fillings, crowns, etc.
Prolonged retention of deciduous teeth.
Tardy eruption of permanent teeth.
Supernumerary teeth.
Transposed teeth.
Disuse.
Abnormal frænum latium.
Habits.
Nasal obstruction.

Of course, the problem of the prevention of caries and of malocclusion has not been satisfactorily solved when a course of treatment is advised which necessitates long and tedious surgical supervision, for such treatment is no answer to the problem of the care of the teeth of the masses of England. Our highest function must be that of pedagogues, but of pedagogues in the original meaning of the word, leading our patient, when we have ourselves learnt the way, to the school of Nature, from which they have for so long played truant.

Starting from this basis we tell our patients that two things are necessary for perfect teeth, thorough grinding of food hard enough to give a certain amount of resistance and that no food that may ferment shall be left around the teeth after meals. In my instructions to patients I prefer the word grinding to mastication, although the derivation of the words is so analogous, since to many the word masticate merely means an up and down movement of the jaw involving contact of the teeth, whilst the word grind conveys the distinct idea of breaking and reducing to powder by friction or rubbing.

In my own practice in the case of young patients I have found much better results in the natural cleansing of the teeth by fibrous foods as advocated by Dr. Wallace than by the use of a toothbrush, which in children is rarely used regularly and even when it is used, not by any means efficiently.

I wish to consider each of the causes of malocclusion given by Dr. Angle, and to point out that these very causes would in many instances have been prevented had the means I have enumerated for the prevention of caries been carried out. And it is to be noticed that Dr. Angle himself in the same chapter says that the absence of malocclusion in deciduous dentures is to put down to the fact that the food and habits of the child are quite normal and very simple during the eruption of deciduous teeth.

Premature Loss of Deciduous Teeth.

This is almost always the result of caries, although it sometimes results from the injudicious attempt to make room for a permanent

tooth by the extraction of a deciduous tooth not its direct predecessor.

Of course, if prophylactic measures have been successful, loss through caries will not have taken place and the same remark applies to loss of permanent teeth which next appears upon the list. The facility and little discomfort with which carious teeth are tolerated especially in the temporary dentition is most striking. Parents seem in so many cases to attach no importance to deciduous teeth and one wonders whether it is not the duty of every family doctor to instruct the mother as to the importance of these masticatory organs in the young. The permanent teeth are, of course, much more sensitive than the temporary, but even in them exposed nerves seem often to give practically no discomfort.

The caries and subsequent loss of deciduous teeth is very important in that it establishes a habit of bolting the food without chewing; first one side of the mouth is put out of action and then the other side, and when the permanent molars erupt they share in the disuse and early fall a prey to caries. This is perhaps the explanation of the theory as to the weakness of that tooth and its feeble resist ance to caries.

If really hard foods are in the daily dietary of a child, even supposing their prophylactic action is not efficient, they will by their demand for sound teeth give early warning of the advent of decay and enable operative measures to be undertaken with the best chances of success.

It is my practice, but only so recently as to have given me small opportunities of observation and inference, to advise the wearing of a denture, which may be cut away as the bicuspids erupt, in the mouths of children of, say, five to eight, who have lost so many temporary molars as to seriously interfere with mastication. I am not referring to those cases in which one tooth has been lost and in which a spur can be placed to maintain the necessary space, but to such a case as that in which all four lower molars had been extracted at an early age. I should be interested to know if this is a general mode of procedure among those who practise orthodontics as specialists, although probably in such a practice the necessity for such measures would arise but seldom. The advent of preparations containing formaldehyde has made the treatment and conservation of devitalised and septic temporary teeth so much easier that this cause of malocclusion if any considerable amount of tooth structure be left can be prevented in almost all cases.

This I feel is a very real province in which the activities of the general practitioner may be useful in the prevention of malocclusion and although sometimes much patience and perseverance be necessary, his reward in the results of the permanent dentition will be correspondingly great. The greatest difficulty is that of seeing our patients at a sufficiently early age and this is decreasing and will decrease as the public is educated. In proportion as we ourselves feel more certain of our powers, so will our exhortations be more strenuous and what is of more importance more convincing.

Imperfect Fillings, Crowns, etc.

These, of course, will cease to arise in proportion to the skill

of the operator, and again the earlier the stage at which we are able to treat the decay the better our chance of success. It is almost impossible to believe that in these enlightened days the suggestion that the tooth should be left until the hole is a little larger, should be seriously made by apparently educated people; but so hard do ideas such as these die especially when they point in the direction of the least resistance that there are many who yet believe that caries must have attained to a certain maturity before it is ripe for treatment.

The Prolonged Retention of Deciduous Teeth.

This occurs most often in the incisor region, but is also the result of the premature loss of an antagonist. Another frequent cause is the almost complete decay of a deciduous molar resulting in the retention of one or more roots especially in the space between the second bicuspid and first molar. I think it is fair to say that the prolonged retention is hardly ever found in mouths where the temporary dentition is perfect and vigorously used. In many cases the teeth remain most remarkably firm right up to the moment of their being shed and come off with a sudden crack and practically no pain.

Where the permanent successor is absent and in the case of supernumerary teeth transposed teeth, abnormal fraenum labium and tardy eruption of permanent teeth prophylactic measures as understood at present are of no avail, and such cases do not demand consideration in this paper.

In certain cases bicuspids may be held back with only the tops of the crowns showing for some considerable time, but more often they will erupt either lingually or buccally to the arch, and in any case are usually the result of premature loss of the deciduous teeth.

Habits such as thumb-sucking, finger sucking, lip sucking and the like are generally acquired at such an early age that the damage is done sometimes beyond repair before the dental practitioner sees the case.

I was fortunate enough to see the child of one of my patients at the early age of three who had considerable protrusion in the upper incisor region. As she had at the time of the visit a rubber comforter between the teeth, and the mother told me that she was seldom without it, I had no difficulty in diagnosing the case, and I had great pleasure, at the mother's request, in retaining what I believed to be the *fons et origo mali*.

The most pronounced case of open bite I have ever seen did not come before my notice professionally until the patient was so old as to put out of question any idea of treatment, but I found on enquiry that the habit of sleeping with two fingers in the mouth was persisted in until the age of 12 or later.

Another case of persistent habit was in a patient whom I treated for a condition of the upper and lower incisors which were pointing inwards almost as if the result of a blow. I noticed that there was a habit of closing the lips very tightly and screwing them up thus causing great pressure upon the front teeth. This was quite unconscious, as it took place continually when I was working in the

mouth and the patient, a little girl of 14, did not at all realise she was doing it.

I mention these two cases to show that, although these habits are acquired early, they may be retained to a later age, and they might be observed and stopped by the general practitioner before much evil had arisen.

These habits are said to be more frequent in bottle-fed children and are considered by some as an exhibition of the powerful instinct for the normal exercise of the jaws and lips which breast feeding supplied, but which in bottle-fed children finds its satisfaction in these curious substitutes.

It at any rate shows us how dependent we are upon the medical profession for their aid in the prevention of these cases of malocclusion, and until they are alive to the importance of the necessity of a normal occlusion we cannot expect them to take much interest in preventing malocclusion.

Nasal Obstructions.—Concerning these I cannot do better than quote Dr. Angle's own words. He says :—Of all the various causes of malocclusion, mouth breathing is the most potent, constant, and caried in results.

It is most prevalent between the ages of three and fourteen years, or during the most important period in the growth of the dental apparatus, and is operative indirectly upon the teeth by causing a symmetrical development of the muscles, as well as of the bones of the nose and jaws, and arrangements in the functions of the lips, cheek and tongue, while the extent of the general derangement is manifest in proportion to the degree of mouth breathing and the time it has been practised.

Although it may be lessened or discontinued at the age of puberty, its evil effects may last through life.

The result of this mouth breathing is known to us all, and the typical countenance may be seen any day in the out-patients' departments of our Hospitals.

The nose is short and flattened from side to side, the cheeks have a peculiar drawn look owing to the mouth being continually held open, the upper arch is narrow and long, and the lower arch usually of good shape, owing to the pressure of the tongue, whilst the lower jaw is drawn back.

The nasal obstructions, according to rhinologists, start, as we should expect, by a slight inflammation or conjestion of the mucous membrane lining the nasal cavities, the vitality of which has been in some way lowered, so that it has fallen a prey to some source of irritation.

Now certain of the muscles of mastication, namely, the external and internal pterygoids, have a very close relation to the nasopharynx being attached to the pterygoid plates of the sphenoid. These muscles at each lateral movement of mastication will tend to pull on their bones of attachment, and besides causing these bones to become thicker by deposition, they will tend to broaden the nasopharynx and will stimulate the healthy circulation of blood through these parts.

For we know that rhythmic contractions of a muscle cause an

increased flow of blood and lymph, not only through the muscle itself, but through the parts adjacent.

It seems certain that the healthy circulation promoted by these means will increase the powers of resistance of these mucous membranes and enable them to escape or recover from these slight inflammation and the formation of hypertrophied tissue.

And this same condition will leave them less liable to the adenoids which so often follow the rhinitis and nasopharyngitis of measles and of diphtheria.

If these assertions are true, and they seem quite reasonable, then the instructions which the prophylactic dentist has given in regard to the thorough grinding of food may, by the normal beneficial effect of circulation, set up in the structures adjacent to the muscles of mastication prevent the growth of those hypertrophied masses of tissue and their consequent harmful effects.

I have endeavoured, in my short paper, to seek out how the general practitioner may best become a prophylactic orthodontist, and once more I must plead the importance of the subject and the comparatively small attention it has received as my excuse for appearing before you, for it is a great subject, and I am fully aware of the deficient treatment it has received at my hands.

The points I have laid stress upon in my paper, briefly summarised, are as follows :—

(1) The chief function of teeth is the mastication of food, and any dentistry which does not bear this in mind is not truly productive labour.

(2) The principles of prophylaxis, applied with a full recognition of this fact, are in very intimate relation with the science of orthodontics.

(3) The malocclusion of the teeth is an insuperable bar to the successful practice of prophylaxis.

(4) Finally, as Dr. Sim Wallace has so ably demonstrated, in the infant and young child, the steps taken for the prevention of caries and the prevention of malocclusion are one and the same.

Gentlemen, I thank you for the courteous hearing you have accorded to me, and any errors I have made I shall willingly admit, for to say that I was mistaken is only to avow that I am wiser to-day than I was yesterday.

Discussion on Mr. Rowlett's Paper.

The President said that it was a very instructive paper, and the subject was one that he had been specially interested in. He felt sure a good discussion would result.

Mr. Lockett, in opening the discussion, referred to the remarks made by Mr. Rowlett on the prevention of mal-occlusion of the teeth, and emphasised the necessity of the care of the temporary teeth. The more one studied the subject of temporary teeth the more one was convinced that the full retention of the temporary teeth was the main factor in the production of good permanent teeth. If popular fallacies were overcome, and the temporary teeth were treated carefully, the chances of normal permanent teeth would be much better.

Referring to the remarks on Pyorrhœa caused by mal-occlusion, Mr. Lockett had seen several cases of Pyorrhœa, which he attributed to mal-occlusion of the teeth, but the friends to whom he had mentioned similar cases were inclined to think it was more likely sepsis. Sepsis is present in practically every mouth, but if the mouth was kept healthy by ordinary means, care taken by the patient, or any other agent, the chances of Pyorrhœa were very remote in the majority of cases. Teeth which were overworked were more frequently attacked with Pyorrhœa. He had seen several cases of mal-occlusion in which there was practically no Pyorrhœa on the teeth that were in anything like correct occlusion, yet there were two or three teeth in the set that were very much out of the line of occlusion, and they were the first to be attacked with Pyorrhœa and sepsis.

Mr. George Thomson, in commenting on the very interesting paper by Mr. Rowlett, said it seemed to him that history was repeating itself. If one looked back at our books we should see somewhere at the beginning of last century a number of men arose who advocated the retention of all the teeth in the dental arches in order to prevent caries and diseases of the gums. They taught that the spacing of teeth by extraction made prophylaxis impossible. Between that time and up to say ten years ago, the extraction of teeth has been regarded rather as a means (by relief of crowding, &c.) to prevent caries.

One seems to have gone back again to the position of the men of about the year 1820. In those times the term Pyorrhœa was not known, in fact in the edition of Tomes used in his student days the word is not mentioned. It is now recognised that the conditions we wish to bring about were only to be attained by the education and nutrition of the infant up to childhood.

When medical men begin to insist on the child being educated in the use of its mouth in a natural manner we shall have less of orthodontics. Prophylaxis, as it affects the mouth, is beginning to be better understood. Only the other day he picked up a book on a bookstall published in 1902 on indigestion, and there the author devotes considerable attention to the care of the teeth and gums inculcating the use of the toothpick, &c., as adjuncts to the frictional value of mastication.

Mr. Hedley Visick thought a great deal should be done to encourage children to use all the teeth in the mouth. He mentioned a case that came under his notice of a child who, on examination, proved to be using only one side of her mouth. His curiosity was aroused by finding that one side of the jaw had the teeth covered with tartar, while the other side was perfectly normal. It transpired that the child had had Infantile Paralysis, which had now disappeared, but the child was so accustomed to using one side only that it was purely a habit that only one side was now used. After about six weeks with the tooth brush, and the use of both sides of the jaw for masticating purposes, the teeth were quite clean. Mr. Visick felt that the same remarks might apply to children with troublesome teeth.

With regard to Pyorrhœa being caused by mal-occlusion, he

had had two cases recently of Pyorrhœa where the occlusion was perfect. In both cases two of the teeth were very badly attacked with Pyorrhœa, and he could not find any cause whatever for their condition.

With regard to Mr. Rowlett's idea of putting dentures in for children, it was no doubt good, but he thought there was a considerable difficulty in fitting dentures to a child of, say, 5 to 8 years. He would like to have some further particulars about it as it seemed to him the jaws were developing at that time, and it must be a difficult undertaking to do anything without interfering with the development of the jaw and teeth.

With regard to cleansing mouths with appliances in position, this was a point he had always found a difficult undertaking.

Mr. Pollitt said with regard to mal-occlusion causing Pyorrhœa, he knew two sisters with perfect sets of teeth, yet they had very marked Pyorrhœa. He also drew attention to an article in the *Practitioner* which stated that 95 per cent. of the general public, men, women, and children, were suffering from Pyorrhœa in some form or other, and he was sure in a great many cases the occlusion of the teeth was quite normal, and mal-occlusion could not be said to be the cause or a large number of the cases.

Mr. Rushton, in congratulating Mr. Rowlett on his paper, said he must agree with the last two speakers with regard to mal-occlusion and pyorhœa.

Within the last two or three days he had had two very severe shocks. One was the case of two girls that had come under his notice, one aged 12 and the other eight, both of whom had got sound sets of teeth and perfect occlusion, and every night were put to bed with a chocolate. The second case was that of a girl that he had known from almost childhood, with a perfect set of teeth, with the exception of one tooth, that he had put a filling in. This girl took a great pride and pleasure in keeping her teeth as clean as she could, and yet she had developed pyorrhœa. An elder sister had had pyorrhœa for many years, and she also had perfect occlusion. Another sister and brother also had pyorrhœa, but the teeth were excellent in quality and occlusion, and it was a question in his mind whether it was a case of contagion by kissing. In another family the members of which had pyorrhœa, the one least attacked lacked several teeth and his occlusion was bad.

It was, he thought, Dr. Bonwill who first brought forward the theory that pyorrhœa was due to mal-occlusion, but that theory, like some others of Dr. Bonwill, was not borne out by facts.

With regard to adenoids, he thought it should be everyone's duty to be on the look out for them, and advise parents on an early operation. If left after the age of six or seven much mischief might ensue.

With regard to J. G. Turner, Mr. Rushton thought he went to extremes. Only a short time ago a medical man came to him asking if he had pyorrhœa. He was informed that there was no pyorrhœa at all, only slight recession and erosion. The patient informed him that he came because Mr. Turner, at a post graduate lecture, gave out that anyone with recession of the gums had

pyorrhœa. If this statement was Mr. Turner's view, he begged very strongly to differ.

Mr. Spiller asked if Mr. Rowlett recommended the abolition of the tooth brush, as his paper inferred that this was his recommendation ? Mr. Spiller thought that anyone with an appliance should be instructed to brush their teeth after the last meal at night at least. With regard to cavities in children's teeth, he had been applying silver nitrate, and had got excellent results from it.

Mr. Northcroft wished to point out how little Angle took into consideration the temporary teeth. Even as late as his seventh edition he had not recognised the number of irregularities that occurred in the temporary dentition, and based most of his arguments on causation on conditions occurring from about seven years of age and upwards.

With regard to supplying the loss of temporary teeth, Mr. Northcroft mentioned he had had no difficulty in this connection and had used Jackson's cribs with satisfaction.

He could not help noticing that the members of the society very seldom touched on the necessity for breaking children of bad habits. Mothers and nurses were ignorant of the fact that although they might give children much loving care, they were seriously injuring them by not breaking them of pernicious habits. He thought members should explain to mothers and nurses very carefully what they wanted done, and enquire from time to time if these instructions had been carried out. In his own practice he had been disappointed in many cases, when, after giving most careful instructions, he had been informed that his directions were not being carried out, probably from lack of patience.

Mr. Rowlett, in replying, expressed his high appreciation of the discussion which had followed his paper, and thanked the members for the attention they had given it.

In answer to Mr. Lockett, Mr. Rowlett said his remarks were meant to apply to teeth that were not used. Pyorrhœa was, he considered, due to defects in the tissues of the gum, causing depression in vitality. He had, too, noticed more pyorrhœa between the second molar and second bicuspid. They were very difficult to deal with, owing to the large amount of periostitis around the teeth.

Mr. Visick made some remarks on the disuse of one side of the mouth. It seemed to him children should be taught to masticate their food with the same care that they are taught to speak.

For cleaning teeth with appliances on, he relied on his own efforts. He always left sufficient time to clean them. He mentioned that one dentist he knew had a tube fixed to the tap in the house and swilled every mouth round before he finished. This man's entire family used it after every meal.

He was afraid Mr. Spiller slightly misunderstood his remarks on the abolition of the tooth brush. A judicious use was what he said.

Nitrate of silver he had used, but his reference was more to devitalised teeth.

Mr. Northcroft spoke about irregularity in temporary teeth. He agreed with Mr. Northcroft's remarks about Angle. Unfortunately he had not had the opportunity of examining any American children's teeth.

Mr. Rowlett agreed that mothers and nurses should be instructed on the proper course to adopt with reference to the children's teeth, and would like to see something done in that direction. He had given up instructing his patients as to cleaning their teeth as hopeless, and never expected them to keep to his instructions. He had always advised the disuse of carbolic tooth powders.

The PRESIDENT, in bringing the meeting to a close, said it was only left to him to thank Mr. Rowlett and all the members that had taken part in the discussions. The next meeting would be held on Friday, February 11th.

The SECRETARY asked that as at the next meeting the subject was cases and problems, those members who had any cases or problems should notify him as quickly as possible, and he would also like to have lantern slides made of them. It was better to show cases in this way, as then the members could sit opposite the screen and the discussion could take place more comfortably. It would also tend to make these meetings more what they were intended to be, viz., an interchange of views and not full dress debates.

ORDINARY MEETING.

An ordinary meeting of the society for the Study of Orthodontics was held at the Rooms of the British Medical Society, Chandos Street, W., on February 11th, the President, Dr. Sim Wallace, in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. H. T. Porteous was admitted a member of the society.

The council had arranged for the exhibition of models and slides in an epidiascope, which added greatly to the interest of cases brought forward.

Mr. J. E. Spiller opened the meeting with the following cases :—

Case 1.—This is a case of post-normal occlusion, accompanied by marked protrusion of the upper incisor teeth, this latter condition being caused by the habit of thumb-sucking. There is definitely no history of nasal obstruction.

The treatment of this case is not yet completed, but I have brought it forward to illustrate what result may be obtained in a short time under favourable conditions. The boy is at school in the country and active treatment can be carried on only during his holidays, but he is then an excellent patient.

The models on the right side show the condition before treatment was commenced (these models were not taken immediately before) and those on the left side show the condition after less than four weeks' treatment. The retaining appliance is shown in position above. This consists of a vulcanite plate with an inclined plane in the anterior part. The plate has also a wire carried around the anterior teeth and the vulcanite is brought between the second temporary and the first permanent molars to keep the space between them.

Treatment was carried out by means of the Baker anchorage. The molars were tipped backwards and the incisors were retracted and drawn downwards by the wire arch. The mandible was also advanced slightly.

He will wear the retainer until his next holiday and I believe the remaining treatment will present no difficulty.

Case 2.—These models are examples of a very common irregularity, the most noticeable feature of which is a unilateral outstanding canine some analogous condition usually existing in the

mandible. Obviously it is caused by premature loss of temporary teeth, this allowing a pre-normal occlusion of the upper first molar on the same side. Incidentally it illustrates the necessity of keeping the resultant spacer until the eruption of the permanent successors.

I bring these cases forward as I am anxious to hear the opinion of members as to the best method of treatment at the age of 20 years or after, or at an age when the eruption of the third molar is expected. I believe there are three methods of treatment advocated, viz., —

(a). Widening of the arch.

(b). Lengthening of the arch.

Or a combination of (a) and (b).

(c). Extraction of a tooth.

When the tooth is only slightly out of line, crowning has also been suggested.

(a). Expansion. This seems illogical, as the irregularity in a typical case is in no way due to a contracted arch.

(b). Lengthening antero-posteriorly. When the incisors are in correct position, it must be harmful to advance them. According to my experience, it is almost impossible to retract all the teeth posterior to the canine at the age quoted.

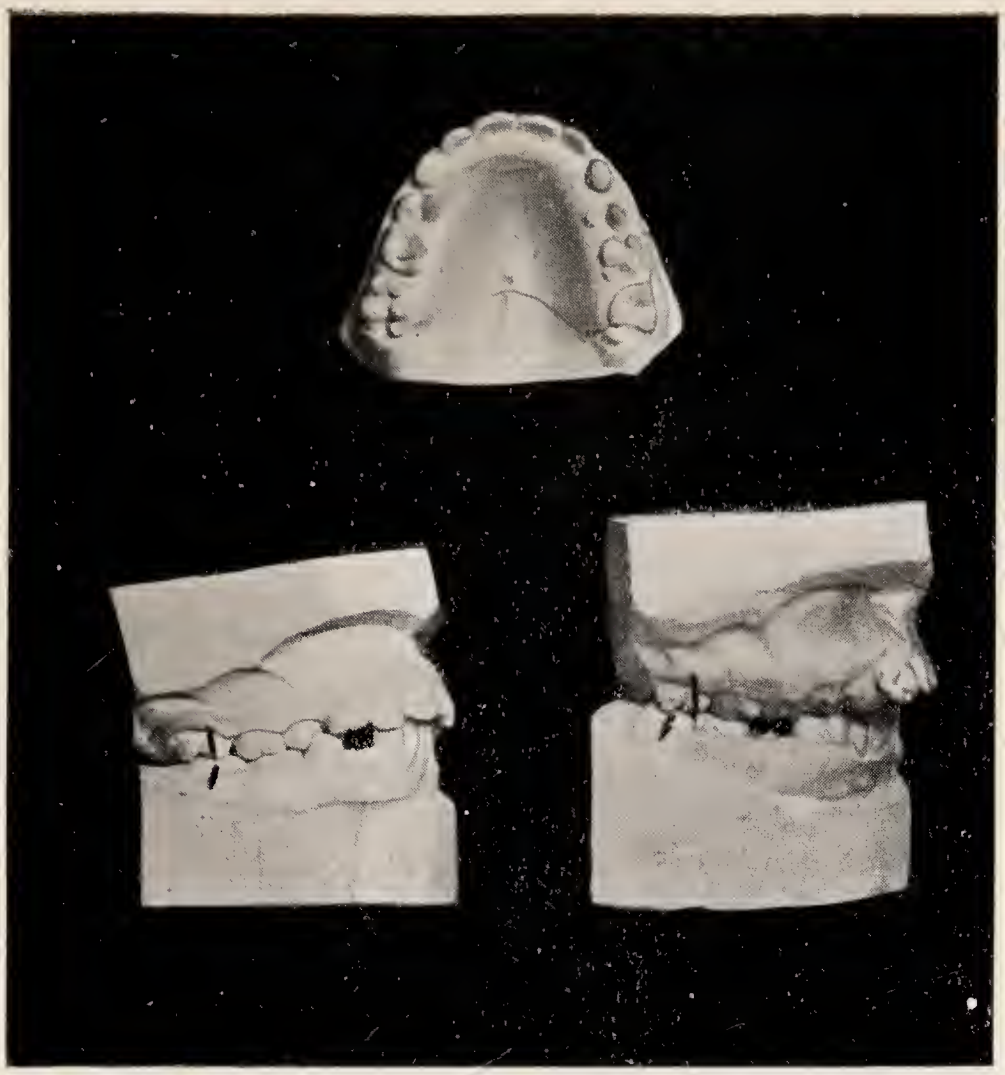
(c). Extraction of a tooth (usually a bicuspid) is condemned by the idealist as it produces a malocclusion. A practical objection is that it leaves too large a space when the canine is only slightly out of its correct position.

In a recent case under treatment, there was a large mesial cavity in the first upper molar on the same side. I filled this, but instead of contouring the filling in the usual manner, made a large concavity in the anterior surface of the filling. The second bicuspid was then moved back until in contact with the filling and the first bicuspid was retracted as far as possible. In this manner a space equal to one-third of the width of the canine was obtained, and this tooth was then moved into proper alignment. The result was good as far as the appearance of the teeth was concerned, although the occlusion was not perfect.

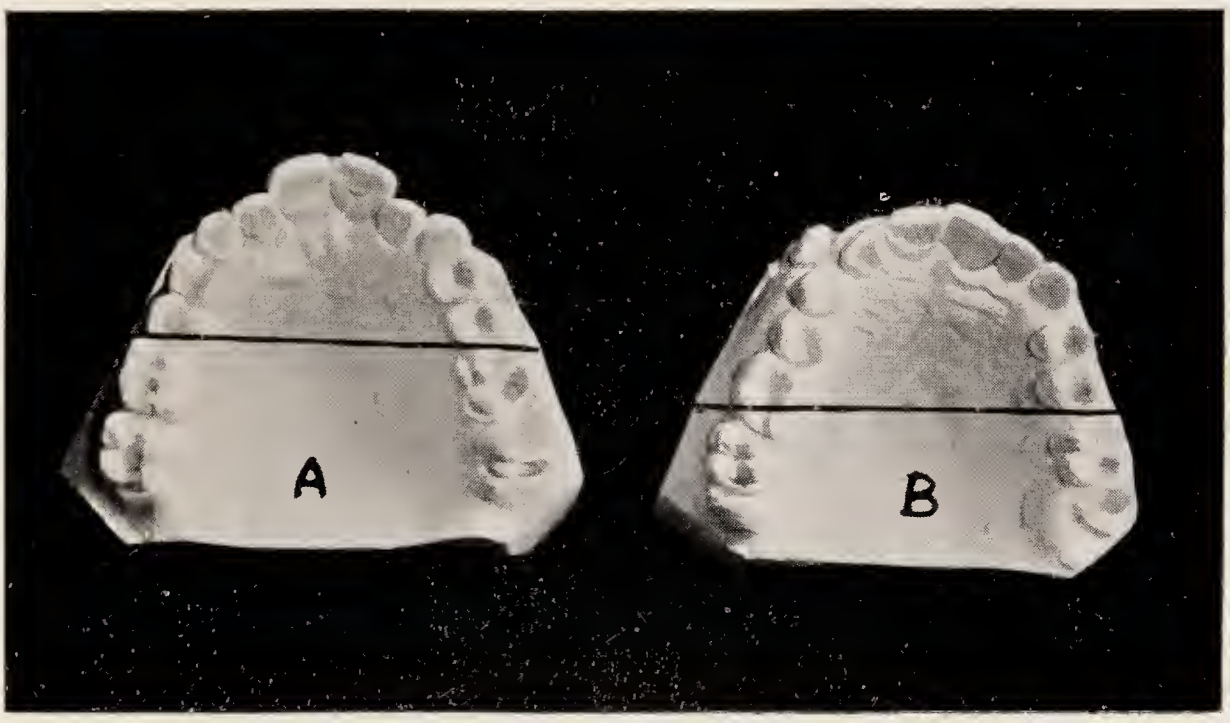
CASE 3.—The models are of the teeth of a child six years old, and the size of the erupting lower incisor indicates a bad malocclusion later if the case is left untreated. She has a disinclination to masticate any but soft foods and in consequence the temporary teeth are not spaced and even overlap in places.

I should be glad to hear the opinion of members as to whether the proper use of the jaws will stimulate their growth sufficiently, and if not, the best method of treatment by mechanical appliances.

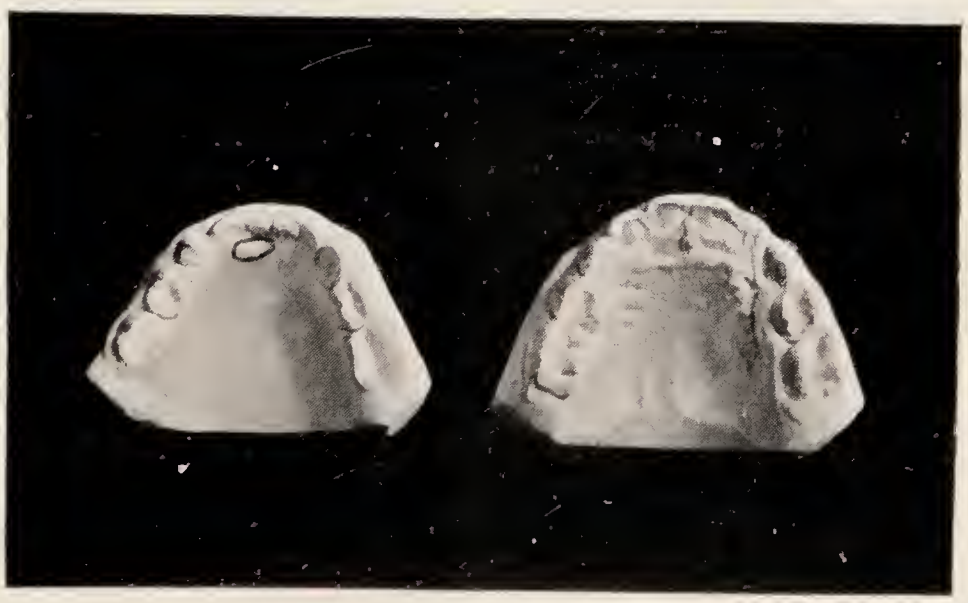
Referring to Mr. Spiller's paper, MR. NORTHCROFT asked if members knew of the retention plates introduced by Dr. McBride. These plates are ingenious appliances for retaining corrected post-normal occlusion cases. They are upper and lower vulcanite plates with wire arches going round on the outside, and transverse blades passing just in front of the first molars ; to the outside of these blades are soldered inclined planes. Dr. McBride reports having had some very successful results from these appliances.



Case I.—Age 11 Years.



Case II.



Case III.—Age 6 Years.

Mr. Spiller's Cases.

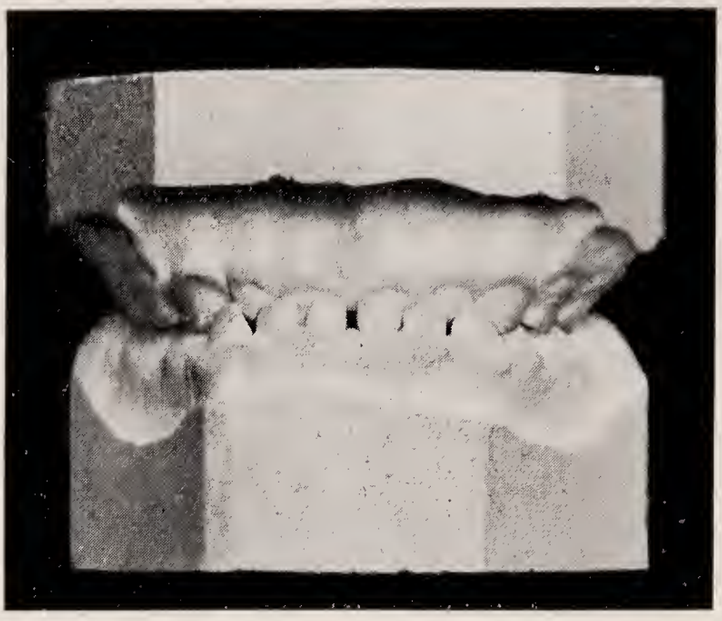


FIG. 1.

Showing underhung condition and spacing of lower incisors in boy aged $4\frac{1}{2}$.

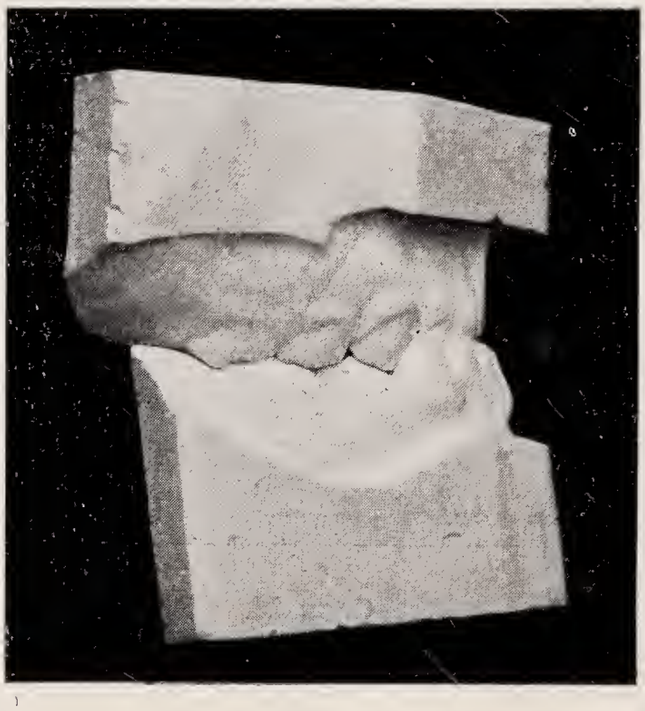


FIG. 2.

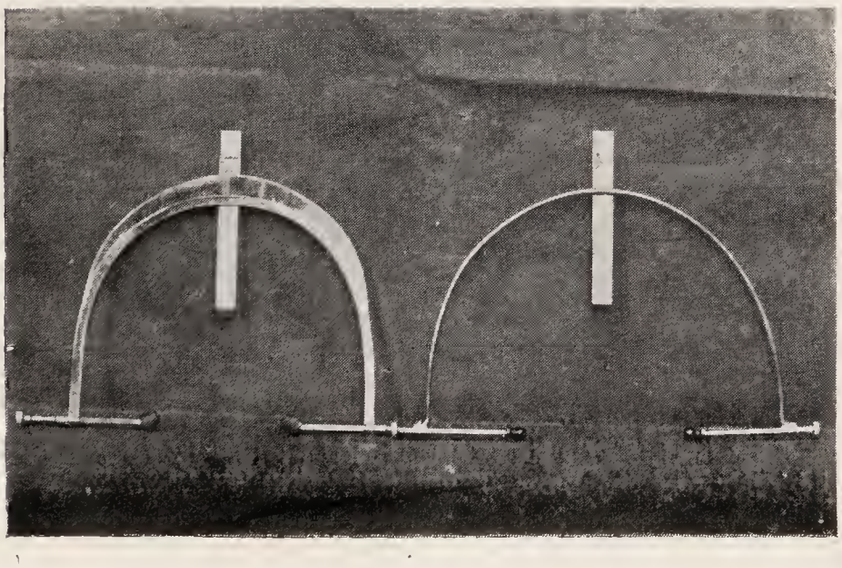
Showing pre-normal articulation of molars in same child.

TO ILLUSTRATE MR. POLLITT'S COMMUNICATION.

FIG. 3.

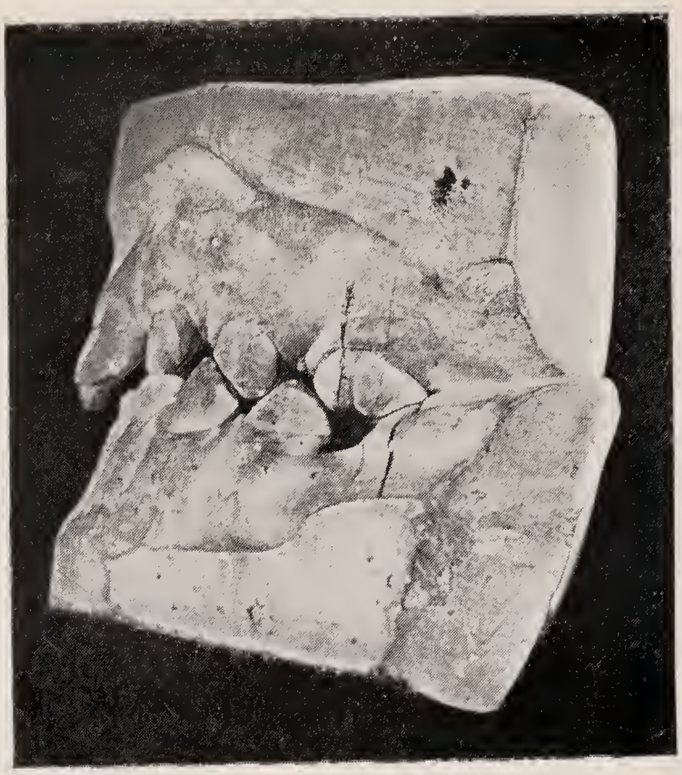
Showing spacing of teeth of both jaws of Figs. 1 and 2, particularly in the upper, although inside the lower.

TO ILLUSTRATE MR. POLLITT'S COMMUNICATION.



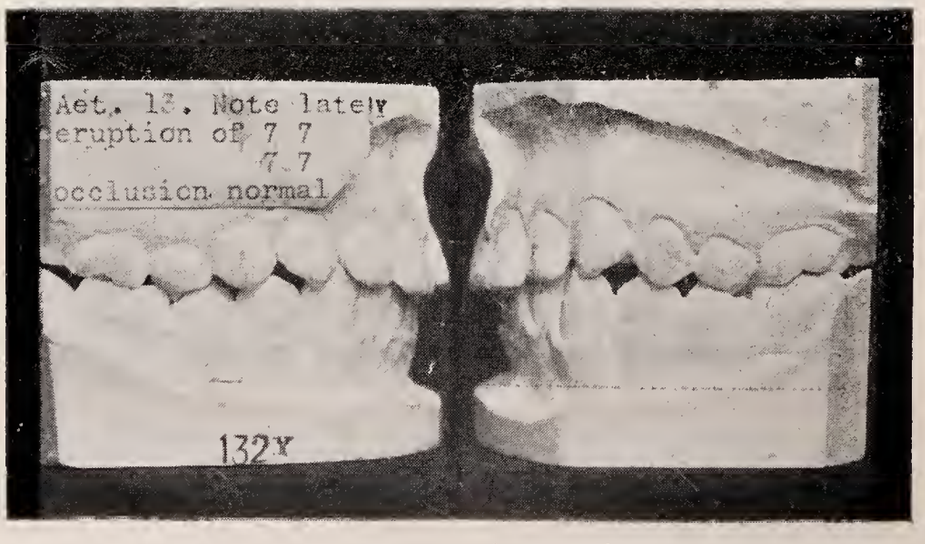
THE PROSOPOMETER.

TO ILLUSTRATE MR. ARMIN'S COMMUNICATION.



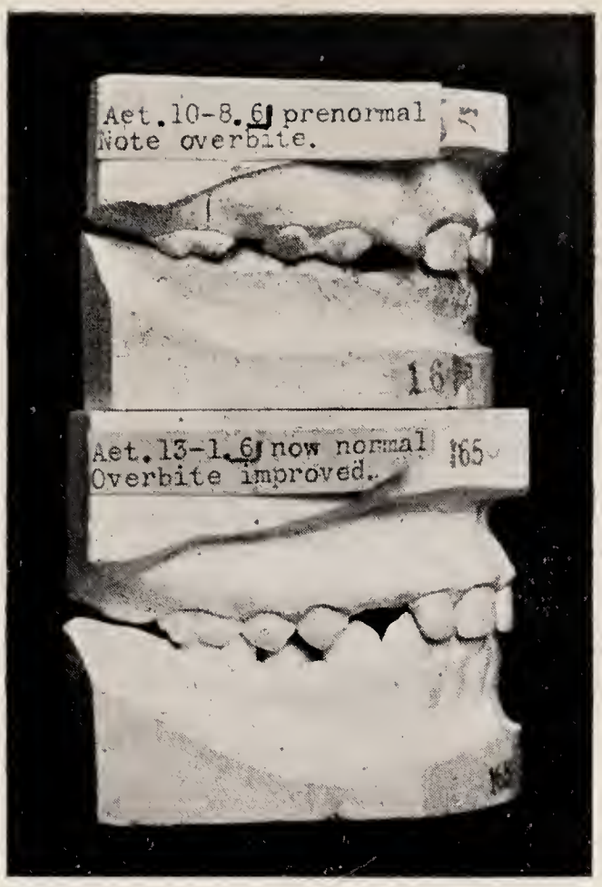
Case I. Slide 1.

Case I. Slide 2.

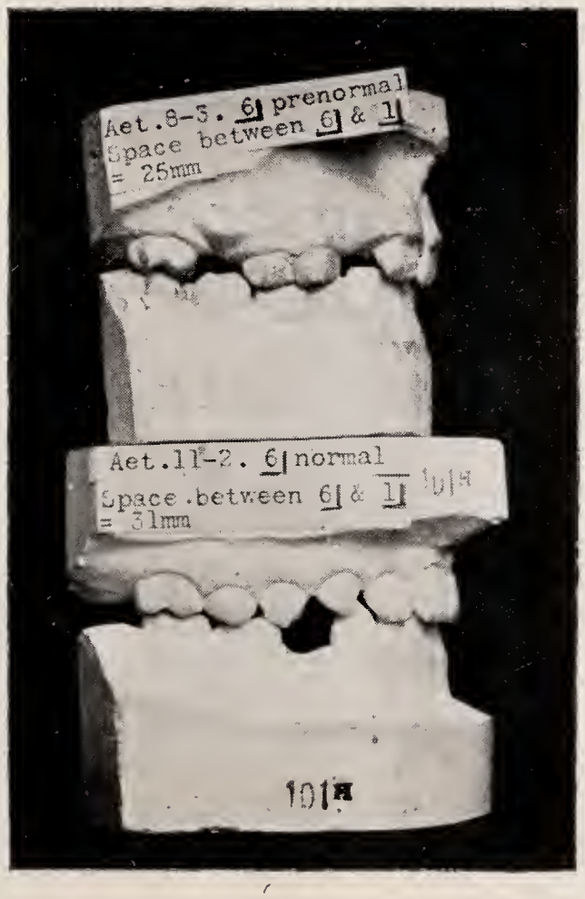


Case I. Slide 3.

To Illustrate Mr. Northcroft's Communication.

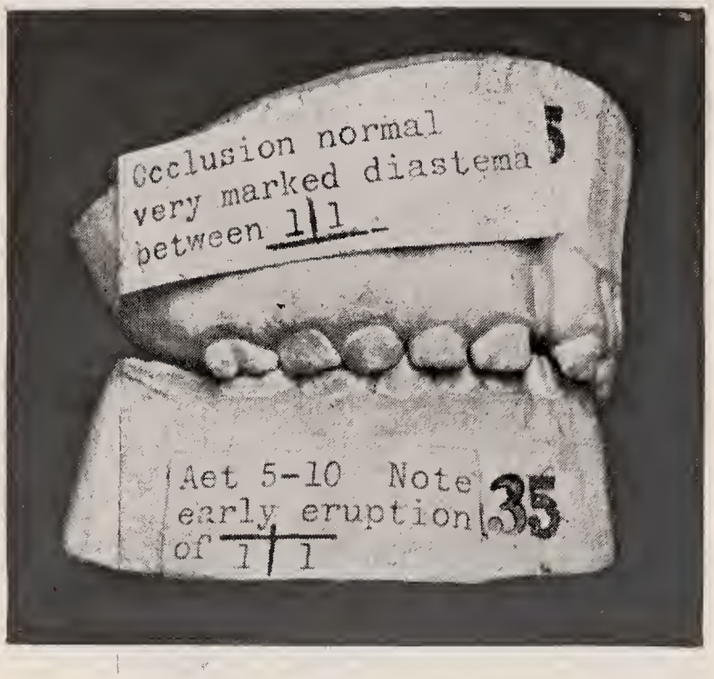


CASE II. SLIDE 4.

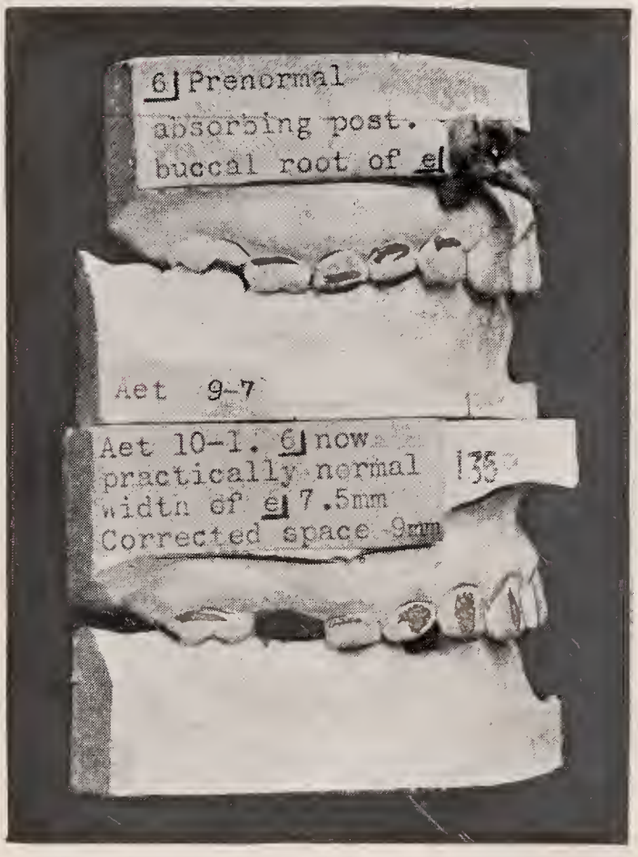


CASE III. SLIDE 5.

TO ILLUSTRATE MR. NORTHCROFT'S COMMUNICATION.



CASE IV. SLIDE 6.



CASE IV. SLIDE 7.

TO ILLUSTRATE MR. NORTHCROFT'S COMMUNICATION.

(1) (2)

(2) (1)

To Illustrate Mr. Tebbitt's Communication.

Mr. Paton Pollitt brought forward the following interesting case, and asked for suggestions as to treatment.

Models of a boy, aged $4\frac{1}{2}$, believed to be a case of prenormal occlusion (Angles' Class 3) in the temporary dentition. The father bites edge-to-edge, and two uncles are underhung; the mother's teeth are normal. There is also some over development of the alveolus in both maxilla and mandible. The question is whether to treat now, or wait till later; and if done now, whether the treatment would be likely to prevent a pre-normal condition of the permanent teeth?

Mr. Northcroft, in referring to Mr. Pollitt's case, said he felt the sound treatment would be to contract the lower arch as early as possible, and in spite of the apparent size of the upper jaw, to expand it and bring the upper incisors over the contracted lowers. He was under the impression that the abnormal bite, in the particular case under notice, automatically increased the development of the lower jaw.

Mr. F. G. H. Armin was then called on for his communication on the Prosopometer. He said:—

Last year Dr. Sim Wallace designed and introduced to your notice an instrument called the prosopometer, he explained its object and the mode of its use. I thought it would be of interest to show a modification of the instrument. The arc has been made more rigid and reduced in width, space having been gained by placing the springs outside instead of inside the arc; the two lateral rods have been graduated in half centimetres, so that the width of the skull at the ext. aud. meati may be recorded. The original instrument was found to move too freely in the meati, this movement was obviated by altering the shape of the end pieces of the lateral rods and by placing them at an angle of 45°.

In order to facilitate taking readings, a window and pointer have been cut in the sheath which carries the sliding scale, the end of the scale has been made sharper, so that more accurate measurements may be taken. It is intended to devise an attachment for recording the positions of the first permanent molars. We hope that the instrument will be helpful in differentiating the condition of superior protrusion from that of inferior retrusion, and that definite information may be obtained of the tooth movement that occurs in cases where inter-maxillary traction is used.

For purposes of comparison, the dimensions of the face are reduced to terms of the auriculo nasion. The figures obtained correspond to the gnathic index. In addition to the measurements originally suggested, we have taken one from the auricular point to the alveolar margin of the lower incisors.

Up to the present, time has not permitted for measurement of large enough number of cases to at present indicate what the normal should be for any given group of figures.

The President mentioned he was particularly gratified to know something in this direction had been done. He expressed the hope that several members would co-operate and so secure much valuable data for the benefit of everyone. If all that Mr. Armin claimed for this instrument was obtained, then the exact position

of the first molar would be known and the correctness or otherwise of the classification of Angle.

Mr. Northcroft then read his communication as follows :—

Up to the present we seem to have shown very few practical results after our two years' labour, and I wish to bring forward a group of four treated cases having one feature in common—the removal of the upper second temporary molar. In three of these cases the mutilation is unilateral, and in one case the removal of all temporary teeth was adopted, as advocated by Mr. J. F. Colyer, with most disastrous results, as the great essential fact of post-normal occlusion, already existing, had not been recognised.

Taking this first case : Those of you who were at the meeting on February 19th, 1908, may remember the first three slides ; since then one has had to await the eruption of $\frac{5|5}{5|5}$, which appeared in June, 1909, at the age of 12 years. The fourth slide shows models taken six months later, January 26th, 1910.

The next two cases scarcely call for comment, they are true pre-normal occlusion of $\underline{6|}$ caused by early mutilation, and unaccompanied by any post-normal occlusion of $\overline{6|}$.

The whole point is, these cases were treated at the right time, and show how simple prevention of further complications is better than difficult cure.

The fourth case is, I believe, very rare. Owing to the non-development of the antrum on that side, or to some other cause, the incoming $\underline{6|}$ has tilted forward, pressing into, and completely absorbing the posterior buccal root of $\underline{e|}$ which was found to have developed a large cavity under the gum, and the first idea was to wedge $\underline{e|}$ and $\underline{6|}$ apart with G.P. and so put $\underline{6|}$ into normal occlusion, but on opening through the crown, an exposure was discovered and the absorption of the post-buccal root diagnosed. Then the removal of this tooth was decided upon, and a plate inserted, to supply the lost biting surface, with a finger spring to push back $\underline{6|}$. The three slides speak for themselves. These cases show how orthodontics may be employed, not only to remedy the chaotic conditions caused by criminal mutilations, but amy also prevent any evil that might arise after a necessary surgical operation.

Mr. Tebbitt said he felt the more often such cases were brought forward at these meetings, the better it would be for our knowledge of orthodontics.

In further explaining the cases, Mr. Northcroft said he owed much to Mr. Chapman for his valuable assistance in connection with the first case. Fixed appliances were used entirely, with the exception of a vulcanite plate, which was put in to supply the lower temporary molar deficiency, and to keep the space for the incoming second premolar. Another vulcanite plate that was used in this case was one with finger springs to hold out the upper second premolars, because the parents of the child objected to his wearing an arch.

Referring to case four, Mr. Northcroft had not enquired as to whether there was any habit that would account for the space between the central incisors, but so far as he knew there was no

habit such as tongue sucking. If this had been the case, no doubt the upper side teeth would have spread over the lowers.

Mr. Blaaburg asked if it was the intention of Mr. Northcroft to band this six year old molar.

Mr. Northcroft replied it was not his intention in the last case, the finger spring having pressed the molar back made this unnecessary. The other three cases were corrected by fixed appliances.

Mr. Rushton brought forward a communication which showed malformation possibly due to heredity. He produced models of the articulation of a mother and her two children. The model of the mother showed an open bite of quite an eighth of an inch. So far as he had been able to judge it had never been different.

The model of the son also showed open bite. The protrusion of the lower incisors gave the boy a coarse expression and this worried the mother. He had been operated on for adenoids. The upper jaw seemed fully developed—the lower jaw was still more so, in fact, the incisor teeth were almost projecting.

The model of the daughter, aged four, showed that the bite was also open, also there was a very distinct tendency towards pre-normal occlusion. Were these, he asked, cases of heredity ?

Mr. Visick, in referring to the boy's models, said he noticed the mouth was not very wide in the molar or premolar regions, but the trouble seemed to be particularly in the incisor region. It appeared to be due to an abnormally long tongue.

Referring to Mr. Rushton's communication, Mr. Northcroft said he would like to remind members of a case mentioned by Mr Badcock at a recent meeting, and thought this might possibly be a similar case of habit being acquired by children of the same family, or even of habits that might be alike in parents and children, also as Mr. Visick suggested, the question of the large tongue might have something to do with it. In the boy's case shown by Mr. Rushton, it appeared to him that the upper molars were in lingual occlusion. In that particular case he thought the upper and lower incisors could quite well be brought back.

Mr. Chapman was not quite in agreement with Mr. Northcroft's remarks on the case. He thought the molar on the left should be extended and the lower incisors should be brought back, then the upper incisors would be elongated and so do away with open bite. Of course he could not say whether this would improve the patient's facial appearance.

Mr. Tebbitt brought forward a case to emphasise the necessity of taking a model of the mouth before proceeding to do any work in it.

The first model (No. 1) showed a big space between the temporary canine and the lower first permanent molar on both sides, or in other words the lower incisors and canines were pre-normal.

The second models (No. 2) showed the position of the teeth after treatment. The treatment consisted of capping the six lower front teeth with a continuous gold cap to the extremities of which small platinum hooks were soldered, from these hooks elastic bands extended backwards to anchor bands on the first lower permanent molars.

The molars being in good lock with their antagonists, had not apparently moved, but the lower front teeth had been brought back to their normal position—leaving ample room for the lower permanent canines as well as for the bicuspids.

Mr. Tebbitt's point was that, had not previous models been taken, it is more than probable that the case would have been treated as though the superior incisors were post-normal, instead of the lower incisors pre-normal, which would have caused a very marked disfigurement later.

The patient was a boy aged ten, and the treatment took about twelve weeks of very intermittent visits.

Mr. Rowlett also brought forward some interesting protusion cases, due to sucking a teat.

The President felt it was only necessary to thank the various gentlemen for the subjects brought forward. He then announced that the next meeting would take place on March 9th.

ORDINARY MEETING.

The April Meeting of the Society, held in the Rooms of the Medical Society, Chandos Street, Cavendish Square, W., was devoted to Demonstrations. The more interesting of these were as follows :—

Two Communications were made by Mr. G. Northcroft,

(*a*) Adaptation of the Anaglyph.

Through the generosity of an amiable professional colleague, I am enabled to show you for the first time in England, an adaptation of the old fashioned anaglyph, to the use of stereoscopic projections in X-ray work.

Dr. Abbot, of Berlin, had the very happy idea of utilising this method for the display of his work. As far as I am aware it is the only method of producing stereoscopic projections without the use of a stereoscope. When the pictures are so projected as to bring the red on the left hand side of the picture, the red celluloid film must be placed to left eye. The pictures, I think, speak for themselves.

I pass round a child's picture book which originated the idea.

Mr. Northcroft also drew attention to the following record :

(*b*) The First Recorded Case of Correction of Temporary Pre-Normal Occlusion.

As a matter of record I think it desirable to read an account that Dr. Isaac Davenport has sent me of a correction of pre-normal occlusion occurring in the temporary dentition, being a similar case to that shown by Mr. Pollett at our February meeting.

In the proceedings of the " American Dental Club of Paris " at the March meeting, 1903, and which was published in the *Cosmos* in 1905, the following record will be found :—

" Speaking upon the importance of early recognition of a faulty articulation of the first molars, I advocated the correction of the bite as soon as recognised even before the other teeth (bicuspids), appear. When asked if I would jump the bite at six or seven years of age, I replied —" I have jumped it backwards earlier than that.

I commenced before three years of age on my own boy. He wore a plate for a month. He had been biting forward before the deciduous molars commenced to show. I put in a plate and pushed the upper teeth forward obtaining a development which has been permanent."

It was a case of a very strongly developed lower jaw, and a moderate and under-developed upper, being made worse in their relations by the shearing of the lower incisors in front of the upper, and even over and against the upper gums themselves, giving a strange old man's appearance to the child.

Expansion Plate Device.

By H. C. Highton.

The device as shown in the illustrations may be described as a form of eccentric screw and is designed to be used in conjunction with a vulcanite case for the expansion of the arch. The force is a positive one, the arrow making the direction of the turn, and can be adjusted by either the operator or patient, requiring, of course, a small section of a turn on each occasion. There is no possibility of the position of the expansion altering as the arms cannot slip back, lateral pressure only causing the points attached to the arms to rest in contact with the ridge of the path, an actual turn being required to bring about an alteration of the position. The reverse of the device is so arranged that the clamp-nut can be removed and the internal mechanism cleaned or attended to in any manner that may be desired, and I wish to acknowledge my indebtedness to Mr. G. Northcroft for this suggestion. The actual working of the device can be better studied from the photographs than explained and I must apologise for my inability to describe it in better terms.

The Barnes Tube.

By Wilton Thew.

The Barnes Tube designed by Dr. V. E. Barnes, of Cleveland, Ohio, as an improvement on the usual type of Angle Tube. It consists of a tube, threaded internally and closed posteriorly, fixed to the molar band in the usual way. Into this screws a second tube, also closed posteriorly, the front end of it being squared to enable it to be rotated with a screw wrench.

The Arch, which is not threaded, is slipped into the inner tube until it reaches the blind posterior end. To carry the arch forward the inner tube is screwed forward and carries the arch forward with it. To carry the arch backward, the closed posterior end of the inner tube is drilled through and the tube itself slipped on to the arch.

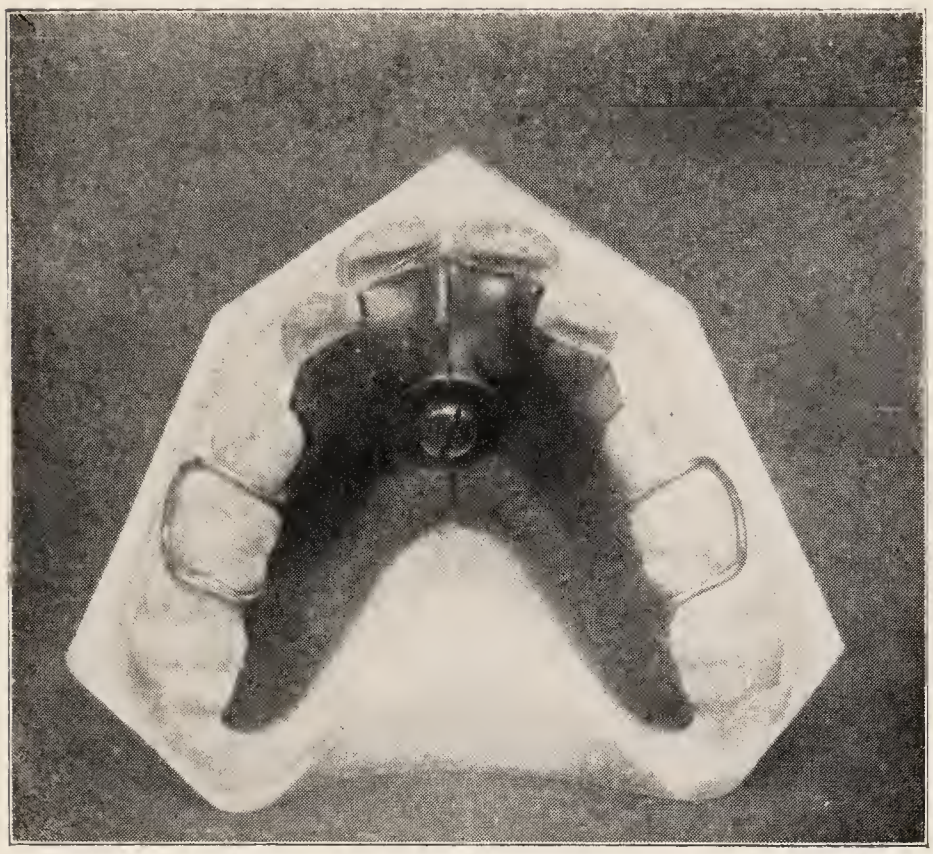
The posterior end of the arch is then enlarged by burring over with a rivetting hammer, or soldering a small head on it, sufficient to prevent the tube sliding off, but not to prevent the inner tube screwing into the outer.

If this latter be done, the arch will be carried backwards. The advantages claimed for this tube briefly are these. A thinner, more springy arch may be used, which need not be threaded.

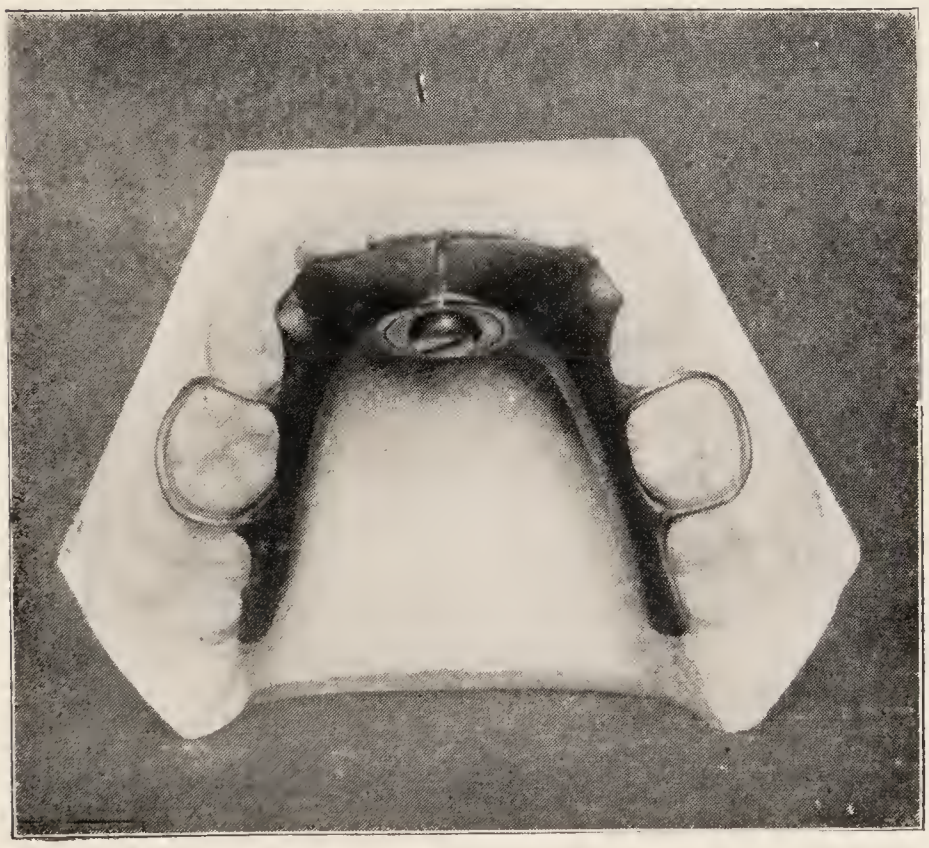
The posterior end being rounded does not irritate the cheek.

The great length of screw prevents looseness and renders the use of a locknut unnecessary.

The Device in Parts.



Attached to an Upper Plate.



Attached to a Lower Plate.

To Illustrate Mr. Highton's Device.

ORDINARY MEETING.

An ordinary meeting of the Society was held at the Medical Society's Rooms, Chandos Street, W., on Friday, June 10th, 1910, Dr. J. Sim Wallace, President, occupying the chair.

The minutes of the last meeting held on Friday, April 15th, 1910, were read and confirmed.

Mr. C. F. Rilot was formally admitted to membership of the Society, and Mr. Alexander Macdonald Watson, L.D.S. Eng., of Bristol, was ballotted for and duly elected.

The evening was given up to Casual Communications brought forward by several members.

Mr. Spiller exhibited the model of a case, the patient being a lady between thirty and forty years of age. The molar teeth appeared to be in post-normal occlusion on each side, and the size of the teeth, looked at from the front, seemed to be almost normal. There had been no extractions and the teeth had been in fairly good alignment. He did not quite see how the case had occurred or why it had occurred. It illustrated very well, he thought, certain cases that might be left untreated, and yet present a very respectable appearance afterwards.

He also exhibited a pair of models of a case of irregularity of the front teeth. The patient was a child of twelve, and the parents did not want the treatment to take longer than was possible, and the question was, under the circumstances, what was the most advisable thing to do, whether to extract the bicuspids or other teeth.

Mr. Doherty showed the models of an apparatus put on to rotate an upper canine. The method was to band the second pre-molar and solder on a wire touching the molar and the first pre-molar internally. On the front of the band was soldered a hook. The canine was also banded with a small ring soldered in the front corner. Through the small ring on the front of the band a piece of springy wire was passed resting on a groove to a piece of flat wire, which was placed posteriorly, and taken on to the bicuspid, so getting a rotating motion.

Mr. Clogg exhibited some models on which he desired the opinion of the members. The case was that of a girl of eighteen who lost a first right upper pre-molar four or five years ago, and the whole of the front teeth on that side had moved round nearly half the width of the central. The patient had a short upper lip, and showed the defect rather markedly, and he desired to know whether it was thought worth while attempting to treat it. It really

meant moving seven teeth in the front and filling up the space where the pre-molar had been. If it was thought worth while treating it he should like to know what would be the best method of doing so.

The PRESIDENT said Mr. Spiller's second case was a very interesting one, and he thought should be treated by extracting the two bicuspids and putting Siegfried's springs on to the laterals. He thought it would take somewhere about a month to finish off the case, though perhaps it might be done in less time.

MR. THEW thought it was obvious from the models that the child did not keep its mouth particularly clean. He considered it was apparent that there was inflammation of the gums and probably established pyorrhœa, a fact which would contra-indicate any long mechanical treatment.

MR. HEDLEY VISICK thought the best treatment would be to extract the first bicuspids. It seemed to him rather a shame to talk about extraction, but he thought extraction was indicated in the present case. He had heard a whispered suggestion that the laterals might be extracted, or even the canines themselves, but with the extraction of a canine there was a marked falling in of the lines of the face on either side of the nose, and if the laterals were extracted a rather hideous appearance was set up, with two dog-like teeth near the centrals, which was not particularly becoming in a girl. If, however, the bicuspids were extracted he thought the canines would fall back into position quite well. Another disadvantage in taking out the canines was that a biscuspid in the position of a canine was one of the worst disfigurements possible. There was always a very broad anterior surface of the bicuspid showing and the inner side of the bicuspid could always be seen, making the face look very ferocious. With regard to the adult case shown by Mr. Spiller, it was a most interesting one and apparently to ordinary appearance was an Angle's Class I. case. It showed what a good occlusion could be obtained even though the teeth were in so-called postnormal occlusion. Both the lingual and buccal occlusion were really perfect and he thought treatment in such a case was not necessary.

With regard to the case shown by Mr. Clogg, taking into consideration the age of the patient and the condition of the teeth, it would be in his opinion a very great pity to undertake any treatment at all. To the casual observer it did not present a very bad appearance and would not be much noticed by an ordinary layman. Any attempt to treat teeth at the age of eighteen would be very liable to end in trouble. Personally he should be inclined to leave the case entirely alone.

MR. RILOT said in regard to Mr. Spiller's second case, that of the child, he should advocate the extraction of the laterals because he thought the result would be better. He differed rather from Mr. Visick ; judging from the position of the left canine he did not think it was in a good position to drop back to the pre-molar. As far as it could be judged by the model he thought the left canine was already distinctly leaning backwards. He belonged to the old-fashioned school and should certainly hesitate to express an

opinion that the canine could be got back into the position of the pre-molar, and even if successful he should feel pretty certain that within eight or ten years it would come forward again. He did not think in all cases, even in a girl, the extraction of the laterals was such a frightful disfigurement ; it depended partly on the size of the central teeth and the teeth generally and partly on the size of the girl. He had seen some cases where the canines had been next to the centrals and the appearance had not been in the least displeasing. Certainly what Mr. Thew had mentioned, that the mouth was possibly an unhealthy mouth and that the less one did the better, would certainly indicate the extraction of the laterals, as then there would be no mechanical interference in any way even by the Siegfried's spring suggested by the President.

He had been glad to hear the remarks of Mr. Visick with reference to Mr. Clogg's case. There again he was one of those men who rather fought shy of too much interference, but he agreed with Mr. Visick entirely that unless the disfigurement was very much more marked than was usual in cases where the centrals were displaced any operative interference would be inadvisable.

The PRESIDENT said with respect to Mr. Doherty's case of canine rotation it was an extremely ingenious little appliance which seemed to be very strong and effective.

Mr. THEW said with regard to Mr. Spiller's case of post-normal occlusion the over-bite was very excessive indeed, to the extent of the cingulum of the upper teeth being impinged upon by the lower incisors. Dr. Weeks, of Philadelphia, was very keen on that particular point and would probably say that the whole of the abnormality was due to the excessive overbite, which would date back to the time of the temporary dentition. Dr. Weeks always treated the excessive overbite before treating any other feature of a case of post-normal occlusion. He thought he would probably say in that case that the abnormality was due probably to some lack of development of the temporary teeth, allowing excessive overbite in the temporary dentition, followed by the same thing in the permanent, a state of affairs that had naturally caused the lower jaw to go back , forming an inclined plane.

MR. SPILLER said in the particular case under discussion he did not think the lower front teeth had taken up that position ; in fact, they seemed to have gone as far forward as they possibly could, because there was a slight space between the lower canine and the first bicuspid on one side. There was certainly an excessive overbite. The curious thing about the case which he did not understand, and which he should like to hear explained, was that the posterior teeth were in post-normal occlusion ; even if the teeth were put in correct occlusion the patient would be practically in Angle's Class III. condition. It seemed strange, because all the teeth were in proper alignment.

MR. THEW asked whether it would not be possible to correct the excessive overbite by paring down the lower incisors, in which case in all probability the cause could be put into normal occlusion without any further treatment. He did not really suggest that as a form of treatment, but if it could be done it would settle to some

extent whether the excessive overbite was the cause of the post-normal occulsion.

Mr. Spiller, in reply, said that, with regard to the case where the front teeth were irregular and the occlusion altogether wrong, he was quite prepared to hear adverse criticism about the proposed extraction of teeth ; in fact, instead of one or two mild criticisms he expected to raise a storm at the very suggestion of extraction of teeth. He had to confess that after hearing the criticisms, he had not altered his mind that extraction for that particular patient was the best. He did not think she had an abnormally dirty mouth, and personally he felt inclined to deprecate the ideas of people who saw incipient pyorrhœa in everything. He thought for the particular child, taking into consideration that the parents did not wish a protracted treatment, the extraction of the first bicuspids was the best solution of the difficulty. The extraction of the laterals would give results which he thought would not be so æsthetically pleasing, and with regard to the extraction of the canines, as pointed out by Mr. Visick, although he had some idea of treating the case in that way at the beginning, he was inclined to agree with Dr. Sim Wallace that the canine would fall back into quite a good position if the bicuspids were extracted, and for that reason he had decided to extract the bicuspids. With regard to the other case, he did not think there was any chance of treatment owing to the patient's age.

With regard to Mr. Clogg's case, he had had the opportunity of seeing that particular patient, and thought that the central having moved, really spoilt her face. It certainly was noticeable to him quite easily, and he believed would be noticeable to most people. The patient herself was very anxious to have something done, which seemed an additional reason for trying to do something especially as her mouth was an exceptionally good one and the teeth were in good condition. The problem appeared to be as to the best method of treating it. From an examination of the models, as well as of the patient's mouth, it seemed to him that the quickest result might be obtained by the use of the Jackson crib, by putting springs into the existing space and moving the teeth one by one.

He wished to congratulate Mr. Doherty on his very ingenious arrangement. The only objection he could see to it was that the small wire might possibly get dislodged.

Mr. Doherty thought it would not do so as the hook was so much bent.

Mr. Spiller thought it would be safer almost to close the hook. His own custom in rotating teeth was to use elastic, attaching it to hooks on the teeth. It was certainly a clean arrangement and did the work quite quickly.

Mr. Pollitt asked what was the particular advantage of wire over elastic. It seemed to him that the amount of strain brought to bear on the rotation of the tooth was dependent on the length of the middle spur, and it was not possible to add to the strength although it could be taken off. He did not see how it was possible with the wire to begin with a small amount of force and go on to

a greater amount. With elastic he thought a gradual amount of strain could be brought to bear without any discomfort. It was, however, an extremely ingenious arrangement, and the remarks he had made upon it were not in any way to be taken as disparagement.

Mr. Doherty said his idea in using wire instead of elastic was to get the wire pressing on the small abutment and so ensure the posterior corner of the tooth being pressed in and the anterior corner pulled out. With the elastic he did not think that action would be obtained. He could quite see that the pressure became less as the tooth came out, but it was possible to use thicker wire. The wire used was piano wire and gave a greater pressure than elastic could give.

Mr. Spiller asked whether it would not be possible to use a ring instead of a slot to prevent the wire coming out.

Mr. Doherty thought that would be possible.

Mr. Clogg, replying on the discussion with regard to his own case, agreed with Mr. Spiller that it was advisable to do something especially having regard to the fact that the patient wished something done. He was sorry the criticism had been adverse, because he had desired to hear some remarks from the members as to the best way of treating the case.

The President said the society was very much indebted to Mr. Spiller, Mr. Doherty, and Mr. Clogg for the communications they had brought forward, communications that had been extremely interesting and very instructive.

The Society adjourned until October 12th.

ORDINARY MEETING.

An ordinary meeting was held at the Rooms of the Medical Society, Chandos Street, Cavendish Square, on October 12th, 1910.

Dr. J. Sim Wallace, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Messrs. E. F. Cale Matthews, L.D.S.Eng., Brian J. Wood, L.D.S.Eng., and Sheldon Field, B.A., L.D.S., were balloted for and elected members of the Society.

Mr. W. Thew then read a paper on

Some Impressions of Orthodontics During a Short Tour in America.

May I commence my paper with a few words of explanation ? I was only in America about a month, and did not go there exclusively to observe the tendencies of modern orthodontics. I was therefore not privileged to see deeply into the work of orthodontists, and have no real right to moralise thereupon. So that I hope you will bear in mind that if I criticise, it is criticism based on the doubtful foundation of first impressions, albeit I hope honest, and having regard to the extreme hospitality with which I was everywhere received, offered in the friendliest spirit.

In no department of life perhaps is the astonishing similarity—and difference—between conditions in England and those in America more strikingly shown than in the practice of orthodontics.

To an untravelled Englishman whose conception of Americans was based on tourists, seen, and occasionally spoken to in London,

it came as a surprise to find an American crowd remarkably like an English crowd, superficially the resemblance between the two peoples is great, it is only when one comes to examine more closely that distinctions appear.

As with the nation so with our professional brethren. Seen in bulk as I was privileged to do, they closely resembled a collection of dentists of our own land, but with them, as with everything else, there are differences, easy to recognise, but difficult to define, distinctions which must be recognised, however, before the true value of the great work which has been and is being done by American orthodontists can properly be estimated.

The freedom and equality of all men, an empty phrase perhaps to some of us in England, is accepted as a working hypothesis in which to build up society across the Atlantic ; and while it has led to some curious, interesting, and perhaps ominous results, must be fully taken into consideration before we criticise professional ethics.

But every man I met was keen, desperately keen, on his work, giving his whole energy, thought and time to it, a trifle over-convinced, perhaps, that he is among the choice selected few, but willing to labour prodigiously to convince the other side of its error, and ever ready to place all his resources of time and eloquence at the disposal of a wandering Englishman.

We are sometimes told that if we wish to succeed—whatever that may mean—we must specialise. The American, as usual, has gone a step farther, and has specialised to a remarkable degree even within the bounds of our speciality. It is possible for several men in each town I visited to carry on practices devoted exclusively to orthodontics. The most immediate and obvious result of this specialism is the production of better technical results, and those with less labour than the all round man can hope for—and it would be strange were it otherwise. But I am convinced that this same specialism—to say the least of it—does not tend to broaden the mind or to promote the practice of Dental Surgery. Whether the better results obtained and the greater confidence thereby engendered in the public mind outweigh these disadvantages is a debatable point, and one on which I should more than hesitate to give an opinion.

Several important factors operate in favour of the American orthodontist. Firstly, American children are mostly accessible during term time in the afternoons ; the American child does not seem to go away to boarding school to any great extent.

Then the patients, such as I saw, were for the most part really keen on the work and prepared to put up with very considerable discomfort without protest. Many of them were young adults, and by no means all these of the female sex. Some of the most striking cases of which I saw models were young men between 20 and 30 years of age, who were evidently prepared for fixed apparatus, and frequent visits for a matter of years.

I mention these things to show the almost ideal conditions under which the American works as compared with those obtaining here. I am sure we need in no wise be ashamed of our results, and may say of English orthodontics as Mr. Kipling says of Piet, "The wonder was not how he fought, but how he kept alive !"

The material conditions under which the work is done were in every case practically the same. The "Office" consisted of two or more rooms, quite small, in a large building frequently of the sky-scraping order, devoted to mercantile offices of all sorts.

In no case was a separate house occupied, or even a separate flat, though the office and waiting-room were usually self-contained. The chair, a large case of shelves containing beautifully carved models, and some sort of work table practically completed the furniture of the surgery proper. Nearly all used compressed air and spray bottles.

It will be seen that the whole outfit is not particularly expensive to buy or to maintain.

Coming down to particulars and details of technique, I was much impressed by the great divergence of opinion and teaching upon many points.

This difference of opinion was particularly noticeable with respect to the materials of which apparatus was constructed.

In New York I was very kindly taken in hand by a great friend and admirer of Dr. Angle.

He, of course, uses the apparatus and materials of his friend, and blames the precious-metal alloy for the white decay sometimes seen around banded teeth. He gave up a morning to show me some skulls in the Natural History Museum which bore on the work of Dr. Hawley of chart fame, of whose conclusions he was keenly critical. I was struck by the ease with which a morning was set aside at so short notice in so obviously prosperous a practice. Of course, the afternoon is the orthodontist's busy time, and the morning brings few patients. How glorious it must be to have hours free in the morning for research work! The skulls, which formed a very fine collection, contained several having normal occlusion, and centrals of identical width, which could in no wise be made to correspond with the Hawley chart. The fact that these skulls were not all of the same or allied races, to my mind, detracted from the value of the observation.

Dr. Pullen, of Buffalo, a name which will be familiar to all the members, showed me many interesting things, some of which I shall show by slides in the lantern. Dr. Pullen uses platinised gold containing a large proportion of platinum for practically all his apparatus; never uses German silver and seldom platino-iridium; for ligatures, brass wire and silk. He showed me an ingenious split nut, which on being slightly compressed with pliers runs stiffly on the arch and requires no lock-nut.

Dr. Pullen uses the split arch—when it is desired to exercise great expansive force, and to get more expansion in the front of the mouth than the ordinary arch gives.

The separate halves of the arch slide in a curved tube, which lies against the incisor teeth, and are separated by screwing nuts against this tube. I particularly asked Dr. Pullen, as indeed I did every orthodontist I visited, how he retained treated cases of post-normal occlusion. I found he retains them with light inter-maxillary elastics and that he finds some difficulty in preventing relapse. The form of maxillary retainer is very inconspicuous. The

incisors are banded and the bands united with solder. The fronts of all the bands, except the canine, are cut away. The interdental tongues look remarkably like interstitial gold fillings.

Dr. Pullen also showed me his new band clenching pliers, the business ends of which fit the lingual and buccal surfaces of incisor s perfectly. He also showed me a handy device in model carving, the backs being so cut as to make the models lie upright on the bench when placed in their correct occlusion.

An orthodontist I visited in Chicago used platino-iridium for all apparatus—bands, arches and ligatures. He also retains post normal cases intermaxillarily. He showed me among many interesting models those of a case of a canine completely embedded in the palate, which had been cut down upon and drawn into the arch by an india-rubber band fastened to a pin cemented into the tooth. The peculiar interest of the case lay in the elastic recoil shown by the tooth. The retention arrangement was fastened to the canine in question, one central and the opposite canine. Such was the tendency to relapse that the central was depressed and the opposite canine elongated a very appreciable amount, as the models testified. Admittedly the retainer was badly designed, but few, I think, would have credited the tooth with such a strong desire to crawl back into the jaw again.

Dr. Case, of Chicago, is a strong advocate of German silver as the metal to apply next to the tooth. He, having had many years' experience with precious metals, believes them to tend to white decay and wearing away of tooth substance, should the appliance for any reason become at all loose. He carries his faith in German silver to the extent of even lining precious metal retainers with the base metal whenever they encircle the teeth. Dr. Case takes facial half-masks of nearly all his cases, most ingeniously contriving in many instances to show some of the incisor teeth as well. This he does so as to be able to take facial contour fully into consideration in determining on treatment. It was most pleasant to hear Dr. Case speak of the extraction of teeth as an operation not only justifiable, but even distinctly advisable in certain cases. I met more men than I expected who were ready to admit the value of extraction in the treatment of cases, and were not bound too strictly to the "God-given 32 teeth."

Dr. Case's molar bands are made plain, without any screw clamp. His contention is that the average Bucco lingual section of a molar being very much cone-shaped more than compensates for the antero-posterior inverted cone-shaped section, so that the girth of a molar near the cusps is less than that near the neck, and also he asserts that this taper is practically constant, hence if one measures the tooth's maximum diameter, procure a band of the same size and ram it home, it *must* fit. The narrowing of the tooth at the neck occurs so low down, according to Dr. Case, that no over-hang occurs unless the band has been forced too far down. I do not presume to doubt the doctor's conclusions, and can only hope they may meet with general acceptance. No one, I am sure, least of all the patient, would be sorry to see the last of the ordinary type of molar clamp band.

In sifting notes in order to obtain material for such a paper as this, it is very difficult to select things which are likely to be of interest to the majority of one's audience, and to reject those which will be well known to all, so that I do not propose to elaborate this part of the paper further, but will be pleased at the close to answer as well as I can any questions the members may care to put.

Before closing, may I say a few words on the subject of the "Inauguration of the National Campaign for Oral Hygiene," which I was lucky enough to be able to attend in Cleveland, Ohio.

The "Cleveland Dentists' Society," I hope I give it its right name, has presented to several of the schools of Cleveland—four or more—dental clinics; and has undertaken to maintain them for a year and bear the expense of materials and the salary of the qualified operator who will do the work.

The schools have provided the room which the Dental Society has furnished with a chair, and all necessary instruments and drugs. There has been so far no State aid, but the Society hopes that if the clinics are a success they will be taken over by the school authorities at the end of the year.

The schools are large and in several cases situated in the poorest parts of Cleveland, so the single operator is likely to have his hands full.

The expense of all this, which has naturally been very heavy, has been borne by the Society, to whom great credit is due.

The inauguration was made the occasion of a great public demonstration, which was extremely interesting. Delegates were invited from other Dental Societies, one man spending three or four days in the train, and President Taft sent a personal representative. Of the usefulness of the meetings and of their suitability to the American temperament there can be no doubt.

A most worthy feature was a meeting for school teachers, attendance being, I think, compulsory, at which much excellent advice was given.

In the evening a public meeting was held and well attended, proceedings being similar to the one for teachers.

Altogether, the establishment of the Clinics is a public spirited act of which the Societies concerned may well be proud, and the inauguration thereof a worthy and highly successful attempt further to interest the public in the care of the mouth, a public which, unpalatable though the fact be, is more alive to the possibilities of dentistry than is ours in England. Not to close with a complaint, may I say that I came back proud of the Old Country, and convinced that hampered as she is by tradition, and hemmed in by convention, she is still capable of holding her own with the younger nation across the water.

The PRESIDENT thought the paper was a most instructive and entertaining one, and considered that the amount of difference of opinion shown amongst American practitioners was an extremely healthy sign, although it was possible they might appear to be too exclusive in their own ideas and rather unwilling to take into consideration those of their neighbours. The point that had interested him most in the paper was the reference to dental hygiene. He

did not know whether Mr. Thew referred to the same report, but there had been a report issued by some National Society in America in connection with dental hygiene which contained a good deal about tooth brushes and antiseptic mouth washes, but he was sorry to say there was not a single word about diet.

Mr. George Northcroft thanked Mr. Thew for the pleasure derived from hearing his paper.

With regard to the practical side of the paper, he should be interested to know whether Dr. Pullen used a plaster plane to make the backs of his models so flat that they could stand upon the table. With regard to Dr. Case's bands, if any member would be enterprising enough to apply them to molars in one or two cases and have X-rays taken of the bands *in situ* it would incontestably produce a case which might be published throughout the world and be of valuable service. It was of no use to say that such and such a thing was so unless one could show definite proof. Nowadays with such excellent X-ray operators it would be a very simple thing to settle the matter once and for ever.

Mr. C. S. Morris said he had had the pleasure of going to America with Mr. Thew, but did not spend quite so much time in investigating dental matters generally. He saw, however, a good many things, and had come to the conclusion that in giving one's impressions of a visit to America it was necessary to take into consideration the conditions of society existing there. First of all, in England, the population was more or less a fixed quantity, it might be likened to a tideless sea ; in America, however, it was an incoming tide with all the rush and swirl and wash of a growing people. Seattle, for instance, not many years ago had a population of under 2,000 inhabitants, while to-day the population was in the neighbourhood of 300,000. An enormous change had taken place in our society with the result that a great amount of money was made and people who had money were only too ready to take any advice from first class orthodontists. They wanted to do the thing well and that was one of the reasons why orthodontists in America were working under almost ideal conditions. He thought it would be admitted that those patients who would carry out almost any kind of treatment, and carry it out most thoroughly, were Americans, who were ready to do almost anything they were told. Then, with regard to the dentists, they were, as Mr. Thew said, exceedingly keen ; in fact, they were too keen, living almost entirely with their work, consequently their methods produced wonderful results. With regard to specialism, if specialism in Great Britain was going to produce certain effects that it had produced in America he believed it would be a bad thing. The President in his Presidential Address had said that in specialism there was a danger of narrowing the mind, and it certainly had that effect upon many of the men he had seen in America, not only in orthodontics, but in everything else. For instance, one dentist did very little else than casting gold inlays and plates that could be made in conjunction with the process, with the result that the mind became narrow, and unable, if he might say so without offence, really to take into consideration all the surrounding facts that ought to be considered in

every judgment in connection with treatment. With regard to teaching, he had seen no teaching of orthodontics in the schools, but had seen some of the teachers both in Philadelphia and Chicago, and so far as he could understand there was no attempt to balance all the different modes of treatment. There was no final weighing up, as it were, of all the different contentions and processes. It was a dogmatic statement that one thing was right and another thing wrong, and there was a great deal of free and adverse criticism of one another's treatment.

Referring to practical details, the apparatus shown by Mr. Thew for the retention of the front teeth was reinforced behind by Dr. Case. He did not know whether Dr. Pullen was, or was not, the first to bring the idea into notice, but Dr. Case made his bands of very thin material, about 40 or 41 German silver, and then took an impression with the bands *in situ*, or took an impression and from a zinc die struck upon a piece of 32 German silver or sometimes 32 18ct. gold, soldered on to the back of the bands and between the bands, so that they were stiff enough, and afterwards polished up the front. He had to pay Dr. Case a tribute as to the remarkably neat and clean way in which he put his various apparatus into the patients' mouths. Dr. Case used apparatus of almost every conceivable kind, putting bars, cranks, nuts, levers, and all sorts of things in at the same time. Although he disagreed entirely with the forces that were supposed to be exerted he was bound to admit that Dr. Case certainly produced remarkable results, and it was a treat to see mouths looking so well with so much apparatus in them With regard to the split arch, it had been on the market for some time but he thought a far better arch was the internal split arch that was very freely used.

He had asked every man he saw how he retained Class II. cases after he had them right, and had found that nearly everybody used light intermaxillary elastics, which certainly was a very much easier way than the old band and spur, which children, boys especially, could bite off. He thought it was possible to control the position of the teeth much more easily by elastic bands than by spurs fixed to the teeth.

Mr. W. Rushton acknowledged the pleasure he had received from Mr. Thew's interesting paper and asked a question with regard to adenoids. Every English dentist knew perfectly well that most of the irregularity in this country was caused by mouth breathing instead of nasal breathing, and it was often said that one of the causes of mouth breathing was our humid and ungenial climate. There were many parts of America, such as California, where the climate was acknowledged to be very beautiful, and he should like to know whether Mr. Thew had gathered, either from observation or enquiry, that there was anything like the same amount of irregularity caused by mouth breathing as was found in this country.

Mr. A. C. Lockett thanked Mr. Thew for that portion of the paper which was embraced by the title. He was particularly gratified to hear some of Mr. Morris's impressions, because he happened to have been in America himself, and had had the pleasure of returning there since he came to reside in England, and although he was quite ready

to admit that there were matters appertaining to the practice of orthodontics in America that perhaps might not be in agreement with the views of the profession in Great Britain, still, generally speaking, if there was one branch of the profession in America carried on on high and professional lines, he thought it was the practice of orthodontics as a speciality. With regard to the question of specialisation, he was to a certain extent inclined to agree with Mr. Thew from the standpoint of being the best thing for dental surgery in general, but he was firmly of opinion from what he had seen in America and in Great Britain as the result of his own work that a man did his best work for his patients and obtained the best results, if he confined his work simply to the practice of orthodontics. The man who had a large practice in orthodontics to a certain extent might become narrowed in mind, yet at the same time the results obtained and the satisfaction given to the patients, and to the operator convinced him that no man could possibly accomplish in general practice what a man could do by specialisation.

Mr. Morris said he wished to record the fact that he had been received very cordially in America, although he went there without any kind of introduction whatsoever. He simply sent in his card asking for a few minutes' conversation, and never met with anything but the most absolute courtesy and extreme readiness to do all that was possible under the circumstances. So much courtesy was shown that he was frequently told " If you come in at 4 o'clock I will give you an hour," or " Come in at any time you like after half-past five." After so much hospitality he hoped that American orthodontists visiting this country would be treated with the cordiality and courtesy with which English dentists were treated in America.

Mr. H. Baldwin thought the paper was a delightful one, especially in the sidelights it threw upon certain subjects. In America they appeared to specialise in an extremely clever way, and utilised the mechanical genius of the race in doing some extremely fine work, and therefore to hear the impressions of a man who had visited them was of considerable interest. With regard to the bands mentioned as being used by different operators, and made of different materials, he took it that it was thought by some that the base metals acted as antiseptics, and prevented the growth of noxious micro-organisms, and he should be interested to know whether the bands as a rule were cemented during the progress of the treatment. If a band could be thoroughly cemented it did not seem that the material of which the band was made could have any effect on the tooth with regard to its liability to decay. With reference to retaining appliances, it would be interesting to know also whether they were cemented or simply jammed on. One that had been shown gripping all the teeth over a comparatively narrow area near the centres of the tooth appeared to be the sort of thing that would not hold on well with cement.

Mr. Hedley Visick wished to take the opportunity of adding his testimony to that of the members who had visited America with regard to the hospitality shown by the members of the profession there. The length to which the men would go in entertaining a visitor was most extraordinary. One thing that had struck him, when in America last year, was the fact that all the men who had any

little thing they found particularly useful in their private practice were only too pleased to show it. With us the average man often had ideas which he perhaps thought were not worth bringing forward, but in America a man would bring forward the most simple thing in order that his professional brethren might benefit by it if it should prove of use. He thought if members of the Society would bring up at the meetings any little arrangements they were using in their office that were not known to the general body of the profession it might very often help some members who were in distress. He thought it was a pity there was not more specialisation in this country, because in America the specialists scored in very many ways and their patients certainly benefited by having a specialist for orthodontics, especially the children. There was nothing terrible about an American orthodontist's office. He had been in one or two in New York, and they might almost have been a private drawing room. There was a chair in the corner, and a very unpretentious case, while in many of them there was an office just through a swing door where the operator could do any soldering jobs, and that sort of thing. There was nothing in fact to scare a child in the way of engines and instruments. He hoped when any members of the Society was called upon by an American brother orthodontist a point would be made of showing him hospitality even greater than that which would be shown in the ordinary way.

Mr. Thew, in reply, thanked the members for the manner in which they had received his paper. In giving his impressions of America he had given them as honestly as possible.

With regard to the discussion generally, Dr. Sim Wallace had referred to dental hygiene, and the fact that nothing was said about diet. There was much excellent advice given, but he had heard nothing with regard to diet. With reference to the flattening of Dr. Pullin's models, to which Mr. Northcroft had referred, he did not know exactly how that was done, but thought that it was carved roughly with a knife and then planed up. He was extremely pleased to hear Mr. Morris's remarks, because in many ways Mr. Morris has come to similar conclusions he himself had come to. He hoped he had made clear the extreme hospitality with which he was received, and he hoped that the Americans who came over here would receive similar hospitality from members of the Society. There was no doubt of the spontaneous kindness and hospitality with which the Americans treated their brethren from Great Britain. With reference to Mr. Rushton's remarks on adenoids, he regretted that he had not anything definite enough to answer Mr. Rushton's question. Possibly adenoids were not so prevalent or so much thought of in America as in this country. He thanked Mr. Lockett for his remarks. With regard to cementation of bands referred to by Mr. Baldwin, most, if not all, of the apparatus he saw was cemented, as was the retaining appliance he had shown. The small appliance with the imperfect bands was also cemented but came to grief by being bitten through.

The President having thanked the author of the paper and those taking part in the discussion, the meeting adjourned to November 11th.

The Annual General meeting of the Society was held at the rooms of the Medical Society of London, 11, Chandos Street, W., on Wednesday evening, December 14th, 1910, Dr. J. Sim Wallace, President, occupying the chair.

The Minutes of the last meeting were read and confirmed.

The Ballot for the election of President, Vice-Presidents and Officers for the ensuing year was opened and remained open for one hour. Messrs. Carl Schelling and J. W. Doherty were appointed Scrutineers of the ballot, and later in the evening reported that the following had been elected :—

President - - -	Mr. William Rushton.
Vice-Presidents - -	Mr. J. H. Badcock and Mr. H. Baldwin.
Secretary - - -	Mr. Harold Chapman.
Treasurer - - -	Mr. Francis Mellersh.
Librarian - - -	Mr. J. W. Doherty.
Curator - - -	Mr. Wilton Thew.
Editor - - -	Mr. Carl Schelling.
Councillors - -	Messrs. C. S. Morris, Hedley Visick and J. E. Spiller.

On the motion of Mr. Carl Schelling, seconded by Mr. J. H. Badcock, Messrs. Pearce & Pollitt were elected Auditors for the ensuing year.

Mr. Ashley Densham, L.R.C.P., M.R.C.S., L.D.S.Eng., was nominated for membership.

Mr. Norman G. Bennett, M.D., B.C.Camb., L.D.S., was balloted for and duly elected.

The reports of the Honorary Secretary, Treasurer, Curator and Librarian were read and adopted. The affairs of the Society were shown to be in a most satisfactory condition.

Casual Communications.

Mr. W. Rushton exhibited mouth models of a young man of twenty-three or twenty-four, who had suffered from adenoids and been operated upon some years ago, but who was still a mouth-breather. The discomfort, not to say misery, some mouth-breathers suffered Mr. Rushton thought was well shown by the remark of the young man that his objection to a Sunday nap was that he knew he would wake with a dry and uncomfortable mouth, and he wished that long ago he had been taught, after the operation, to breathe through his nose. Mr. Rushton was of opinion that when patients were operated upon for adenoids it was a wise thing to insist upon breathing exercises being performed, because the bad habit could quite easily be indulged in even after the cause of that habit had been removed. The patient's dental condition, whatever it had been, was treated by means of "symmetrical extraction," the removal of the four six-year-old molars, and Mr. Rushton thought that the models showed a result, which, though not perfect, was fairly satisfactory. The appearance was good and the bite very fair. The wisdom teeth had come forward, were functional, strong and free from caries.

Mr. Rushton also exhibited models of a case of a little girl, six years of age, in whose family there appeared to be a tendency towards Angle's Class III. deformity. He thought it would be interesting to see, when the superior incisors came, whether they came in front of or behind the lower incisors, which were already through. The child was not a mouth breather, and her teeth articulated correctly, so much so that although she had lost a right upper second temporary molar the six-year old molars locked together and their position was quite normal. He contended that if the child had been a mouth-breather those molars would probably be in abnormal relationship.

Mr. Pollitt exhibited a model of a case upon which he wished the

opinion of the members as to treatment. The child, a little girl of six years of age, had been operated upon for a cleft palate at a very early age, and the point that exercised him now was how to prevent the lower jaw being affected by not having the teeth of the upper jaw to oppose them, and also the question of the filling up of the space caused by the cleft. The patient was the youngest of a family of seven, all of whom, with the exception of the child, had post-normal occlusion ; in her case there was apparently normal occlusion of the temporary teeth. There was irregularity on one side, probably due to the coming forward of the upper teeth.

Mr. J. E. Spiller presented two models of a patient, a lady thirty years of age, who had all her teeth with the exception of one lower second bicuspid on one side, with regard to which there was no history of its ever having appeared. That had resulted indirectly in the upper left lateral being placed in a bad position, and as the patient was rather nice-looking and careful of her appearance, she wished to have the tooth put into a better position. It appeared to him to be rather a difficult problem and he should be grateful for suggestions.

Mr. Carl Schelling asked whether the lady's desire to improve her appearance was sufficient to cause her to undergo the operation of crowning ?

Mr. Spiller said he had not suggested the operation of crowning, although it had occurred to him. He had hoped to obtain a suggestion that evening that would possibly obviate crowning. There were several other points in connection with the case. The molar occlusion, for instance, had remained stationary on either side, but the patient had excellent articulation. The point of interest was the excellent molar and bicuspid occlusion.

Mr. J. H. Badcock supposed it had occurred to Mr. Spiller to separate the teeth by taking a little off each of them, and in that way allow the lateral to come in, not absolutely in correct position, but in a position that might be accounted satisfactory.

Mr. Spiller said there were several difficulties in the way of treatment. The chief question that occurred to him was how to retain the teeth, even if the treatment Mr. Badcock suggested was adopted, and perhaps Mr. Badcock would say how he would propose such retention and whether he thought it advisable to move a lateral tooth in a patient of thirty.

Mr. Badcock said he did not think there was any harm in doing it, and failing other methods of retention he should think that possibly if the patient wore a plate at night for some time the tooth could be retained in the position after a while. Supposing it were not possible and the worst came to the worst, the retention could be carried out by stapling the tooth to its neighbours.

Mr. G. Thomson, referring to Mr. Rushton's case of "symmetrical extraction," said that in his opinion the articulation had been entirely thrown out by the extraction of the molar teeth. An examination of the model on the inside would show that on one side a number of teeth were not in contact at all except just on the points, and the masticating surfaces were entirely useless as far as the wearing down of the cusps was concerned, which was, of course, necessary to get a proper bite. There was nothing like the bite that ought to be obtained normally. As he had often said before in such cases, the appearance of the face was very much altered. Mr. Northcroft had observed at the last meeting that at a public dinner it had been possible to distinguish the people who had had molar teeth extracted, and though that might be a little far-fetched he thought it was often possible to detect a line down the side of the cheek showing where the molars were missing. While the case shown by Mr. Rushton might be said to be a fairly good

result, that was about all that could be said of it. The extraction of molars where they were very far decayed might be the best thing under certain circumstances, but it gave nothing like the ideal result that ought to be obtained. Attention ought to be called to the fact, especially for the benefit of younger men, that the condition of things to aim at was to have all the teeth in position and perfect occlusion.

Mr. Rushton said he was not upholding the operation and it was not his case, but he had brought it forward as showing a very fair result effected by the operation. When he was a student it was the orthodox mode of treatment, the idea being that as the six-year-old molars were prone to decay, the best thing to do was to extract them somewhere about the time the twelve year molars were about to erupt, and they and the wisdom teeth would come forward and fill up the spaces so made. That had evidently been the procedure adopted in the present case, and he contended that, for that operation, it was a fairly good result. There were, however, so many better procedures nowadays that he would not under ordinary conditions think of advocating such an operation, and he had only brought it forward in order that the members might see a mode of procedure which was considered orthodox at one time and a very common procedure.

With regard to Mr. Spiller's case, he did not think there was any prospect of his obtaining any satisfactory result by any methods he could adopt, even with a good deal of pain and discomfort to the patient. If Mr. Badcock would look more closely at the teeth he would find the amount of space required would be so great that even the discing down of the teeth in the way he suggested would not be sufficient to get the teeth into proper alignment without very markedly affecting the contour of the teeth themselves. Personally he strongly advised the lady to be satisfied with things as they were.

Mr. G. Thomson thought it was impossible to pass an opinion upon Mr. Spiller's case without seeing the lady or a photograph of her; in fact he should like to see her smile before saying anything on the subject. There might be in that very irregularity a great fascination and charm which would disappear from a face that was beautifully regular.

Mr. Rushton said curiously enough in the last few days he had heard two expressions of opinion which struck him as being very quaint. In the first case he was explaining to a lady that the effect of mouth breathing on her little girl was such as to draw down the face and elongate it, and her reply was, "Then I think it is a great pity I did not go in for mouth breathing." She had rather a round face. In the second case he had been told by a lady that a gentleman friend of hers preferred girls with prominent teeth. He thought the public required a good deal of education.

The President thought Mr. Thomson was quite right, because from what Mr. Spiller had told him he believed the lady was rather fascinating in appearance.

Mr. Rushton asked Mr. Pollitt what age the child with the cleft palate was, when she was operated upon, and whether she could speak with clearness and swallow with comfort.

Mr. Pollitt said she was operated upon when she was two or three months old and had a second operation later on. She spoke perfectly well and there was no discomfort. Owing to having had two operations she was highly nervous. He wished to know to what extent an artificial denture could be used in such a case. The child was always sucking her thumb, which she got into the V-shaped space, and he thought that was helping to push out the lower two incisors and must also tend to increase the size of the space. The question was

whether the surgeon who had performed the operation should be asked what could be done in regard to an appliance of any sort.

Mr. Rushton said evidently if the child spoke and swallowed well a velum was not wanted. At a meeting of the Metropolitan Branch of the B.D.A., held at St. Bartholomew's Hospital, a little girl of six years of age was brought forward wearing an artificial velum for the purpose of improving her speech. The child spoke very indistinctly and painfully and was having lessons in pronunciation. The remarkable point about the velum was that it was retained in position without any appliance, or bands of any sort, and the child seemed to have no difficulty whatever in keeping it in its place. If Mr. Pollitt thought of putting in anything of the sort it might be quite possible for him to do so without using any bands or clasps, simply by training the child.

Mr. Spiller said that unless a considerable amount of space had been left in the upper jaw the lower jaw would be contracting to keep pace with the articulation. There would be really a choice between expanding the upper jaw to prevent further contraction of the lower, or sacrificing one of the lower teeth to compensate for the amount of space lost in the upper jaw. Another thing was to provide some means of retention to prevent matters getting any worse, and the choice lay between a plate and a fixed appliance of some kind. The difficulty with the plate was that it would have constantly to be altered on account of erupting teeth. She could wear a fixed appliance to prevent any further contraction or alteration of the jaw by plain bands on the second temporary molars, carrying a smooth arch of some kind made of iridio-platinum wire on the inner aspect of the teeth; that would hold things as they were and prevent further falling in which he thought was the trouble to be avoided.

Mr. Thomson said he had heard of the case of a lady who wore a velum made by Dr. Claude Martel, of Lyons, a great expert in such matters. The point about the case was that the lady, who could not speak the simplest words without the velum, was really able, with the velum, to sing professionally. Even her music master had no idea she was wearing such an instrument until she came forward at that special meeting to demonstrate its advantage. It was a light instrument such as Dr. Claude Martel only seemed capable of making.

Valedictory Address.

The President then delivered the following Valedictory Address :—

Gentlemen,—On vacating the Presidential Chair I have but few remarks to make. There have been no strikingly memorable events during the year, but this has not precluded it from being a session of quiet and steady progress in which it would appear that all or nearly all the members have participated. Such progress naturally does not specially lend itself to show, and it is often overlooked even when the advances made are really quite evident at each meeting. The change from crude opinions and but imperfect knowledge to clear appreciation of the best work done in a complex and highly specialized branch of learning tends to escape the notice of those who are themselves participating in the advances. But when we consider the keen appreciation of the Society in general of the varied and knotty problems which were, as it were, sprung upon us at our last meeting, we cannot but feel that there is a pretty broad gulf between the standard of the intellectual interchange among our members now and that which existed in the earliest days of our Society.

We are glad to note that the work of the Society was much appreciated this year by the British Dental Association. The paper which was presented by Mr. Doherty at their annual meeting was highly valued,

and the Orthodontic Museum, which was quite a feature at the Liverpool meeting, was solely the product of the members of the British Society for the Study of Orthodontics.

Again it has been our pleasure to see that our proceedings are keenly watched and abstracted by foreign journals. It is always a great compliment for a Society to have its transactions translated, even though they may not always be reproduced *in extenso*. When we note such appreciation we begin to feel how much we are indebted to this Society, which enables us not only to hear such communications, but to be able to listen to the speakers in the original and to have the expositions still further enhanced with models, lantern slides, etc. With regard to the scientific aspect, we can certainly say that the Society has amply shown itself as a distinct, though no doubt at present a relatively small, asset in the learned Societies of Europe.

With regard to the more material considerations, we have to note an alarming increase in the funds of the Society. We hardly know what to do with the money, but I have no doubt it will be well spent in such a way that the members may have the full benefit of it.

We have been steadily increasing our membership, while resignations or non-payment of subscriptions are, I understand, practically unknown.

This being the state of the Society there is no need for me to say much beyond that we, and particularly I, owe a deep debt of gratitude to the officers who have succeeded in making a very successful session and have also succeeded in making my time of office a very pleasant one. At the same time I cannot but admit I am happy to feel that I am coming down from this Chair to join the members again and to enter unrestrained into the debates once more. There is one particular reason for me to be pleased to vacate the Chair, and that is because I know that no one is better suited to take the part of President for the coming year than our excellent friend and colleague, Mr. William Rushton. It would be difficult for me to welcome anyone to this honoured Chair more cordially than I do him. It was he who first upheld and encouraged me in the days when there were but few facilities for the study of orthodontics, and I am sure in a year hence the Society will be even more able than it is now to appreciate the generous and useful help which habitually comes from him.

In conclusion I have to thank you all most cordially for the indulgence and loyalty which you have accorded to me during my term of office.

Dr. Sim Wallace then vacated the Chair, which was taken by the new President, Mr. William Rushton, who thanked the members for electing him to such an honourable position, and said he hoped his conduct in the Chair would be such as to maintain the dignity, honour and utility of the Sociey. He had been gratified by the too kind words Dr. Sim Wallace had used of him ; really it was Dr. Sim Wallace who had stimulated him ; probably they had reacted upon each other. There was this difference, however, that while Dr. Sim Wallace had done real, good solid work for Orthodontics, he himself had done little or nothing. He would do his best as President to help the Society, which he felt certain was doing a great deal of useful educational work, not only for members of the profession, but for their patients. The question of adenoids and mouth breathing was becoming one of the most important the nation had to contend with, and anything that could be done towards educating the public would be a really useful work.

On the proposition of Mr. Pollitt, seconded by Mr. Clogg, a hearty vote of thanks was accorded to the retiring President and officers.

Mr. Mellersh briefly replied on behalf of the latter.

The President having thanked those who had brought forward Casual Communications and those who had taken part in the discussion, the meeting adjourned.

THE BRITISH SOCIETY FOR THE STUDY OF ORTHODONTICS.

STATEMENT OF ACCOUNTS FROM THE 1ST DECEMBER, 1909, TO 30TH NOVEMBER, 1910.

RECEIPTS.

1908-1909. £ s. d.		£ s. d.	1909-1910. £ s. d.
	To Balances brought from last account :—		
25 16 2	Cash at Bank	12 11 2	
3 11	Cash in hand	3 5	
			12 14 7
	,, Subscriptions received during		
70 7 0	the year		82 19 0
£96 7 1			£95 13 7

EXPENDITURE.

1908-1909. £ s. d.		£ s. d.	1909-1910. £ s. d.
15 15 0	By Rent		15 15 0
14 14 0	,, Reporting		7 7 0
16 10 6	,, Printing and Stationery ..		15 2 1
5 10 1	,, Process Blocks		2 16 0
2 2 0	,, Library Books		— —
17 16 9	,, Lantern and Accessories ..		6 10 6
—	,, Materials for Demonstrations		1 2 0
2 0 4	,, Normal Arch Com. Expenses		
5 4 11	,, Refreshments		6 10 6
3 18 11	,, Postages, Telephones and Sundry Expenses ..		3 13 8
	,, Balances carried to next Account :—		
12 11 2	Cash at Bank	36 16 0	
0 3 5	Cash in hand	0 0 10	
			36 16 10
£96 7 1			£95 13 7

We have examined the Books and Vouchers, and certify the above Statement of Accounts to be correct.

WILTON THEW,
JAMES SCOBIE, } *Hon. Auditors.*

W. FRANCIS MELLERSH, *Hon. Treasurer.*
December 14th, 1910.